ОБІЖНИК - NEWSLETTER

ТОВАРИСТВСО УКРАЇНСЬКИХ ІНЖЕНЕРІВ АМЕРИКИ – *НЮ ЙОРК*

UKRAINIAN ENGINEERS' SOCIETY OF AMERICA – *NEW YORK BRANCH*

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From the President's Desk

Thankfully, this issue is not as late as the last edition of the Chapter newsletter. It'll be dropped off at the Post Office at the end of June. That's still within the "official" publication time period. By next time we should be back on schedule.

I'll quickly touch on three main points that I'd like to ask everyone to help out with:

1. Please encourage other people, of all ages, American and Ukrainian born to join. Now with our Associate and Student membership levels, any one who could possibly want to join can do so legitimately.

   An increasing membership level is important to the organization's survival. New members add to the work pool on projects and also generate interest about the Society's project among others.

2. Please try to keep us informed about interesting events and projects that our members are involved in. We'd love to spread the word about our members accomplishments whether they professional or personal accomplishments.

3. Don't forget to pay your membership dues. Of most importance are those who still have not paid their 2004 dues. By early July, members who have not paid their 2004 dues will be placed on the "inactive member" list. We'd hate to see that happen.

Until next time……..

Marco Shmerykowsky, PE
Марко Шмериковський

Third Annual Officially Unofficial UESA New York City Seventh Street Festival Pub Night

On Friday, May 13th the New York City Chapter of UESA organized its third annual "Officially Unofficial Pub Night" at the Karpaty Pub on Second Avenue in New York City. The Karpaty Pub, as some of you may have already learned, is the reincarnation of the Lys Mykyta bar that served as a primary Ukrainian social meeting place for a number of years.

Celebrations within the old Lys Mykyta bar

The event was called "unofficial" since banners or other advertising for the Society were nowhere to be seen within the establishment. However, the chapter was able to successfully utilize the Society's growing e-mail distribution list and other new electronic venues to get the word out that an event was taking place. From that point on the, the communiqués spread by themselves.

The most interesting new avenue of communication among the Ukrainian-American Diaspora has become the Ukrainian Group Multiply web site

(http://ukrainian.multiply.com). This internet group was started shortly before last Labor Day weekend by a group of people who wanted to stay connected to their Ukrainian friends over long distances. Since Labor Day, the group has swelled to over 900 members. It played an important role in spreading information amongst the Ukrainian-American Diaspora during the Orange Revolution. Hopefully, the Society will be able to take advantage of this growing group to attract new members.

The fact that people were already in town for the annual Seventh Street Festival at St. George's Ukrainian Catholic Church combined with the chapter's improved image with younger groups of professionals lead to a pub night which was almost as crowded as the pub night before the annual Chervona Kalyna Debutante Ball.

In short, the pub night was "officially" a success. The large turn-outs that the Chapter's Pub Night's generate has resulted in parties approaching us for sponsorship opportunities. We plan to investigate these options together with an expanded Pub Night Calendar.

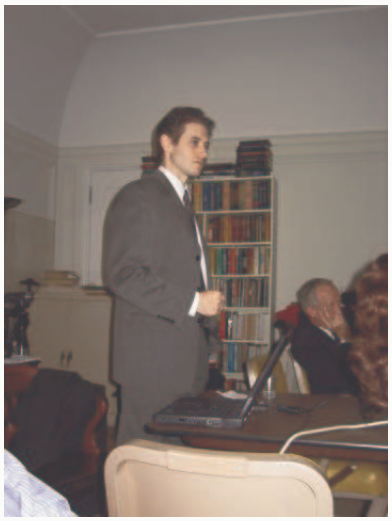
Adam Hapij Lectures on "Blast Effects on Buildings" at Ukrainian Engineers' Lecture Series

By Ivan Durbak

On May 26th, 2005, the Ukrainian Engineers' Society of NYC presented a lecture by Adam W. Hapij, P.E., civil engineer at Weidlinger Associates, Inc., NYC, on "Blast Effects on Buildings".

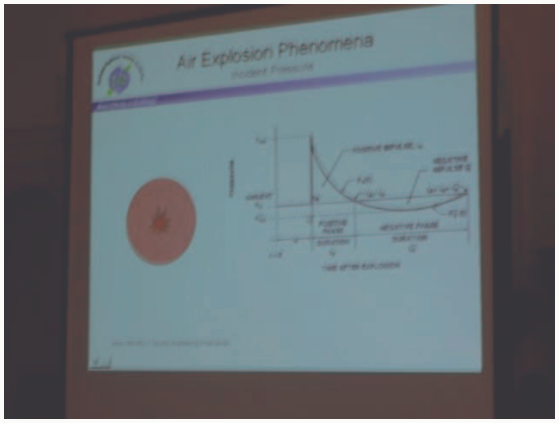
Lecture attendees listening to Mr. Hapij's presentation

Mr. Hapij began with a broad overview of terrorist attacks in recent history, categorizing the 2,667 explosive incidents in the U.S between 2000 and 2003. He then described the blast threats from explosive weapons (mortars, hand grenades, improvised explosive devices, vehicle bombs, bulk high explosives) as well as non-explosive blast threats (from aircraft impact, car impact, and gas explosions).



Mr. Adam Hapij, PE

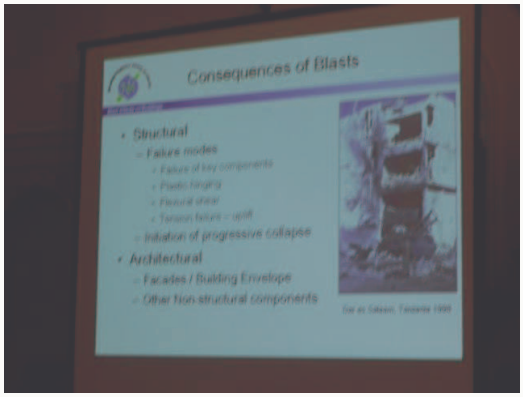
Mr. Hapij next detailed the general features of explosion phenomena: detonation, afterburning, flash, and fragmentation. He explained the mathematical models and empirical relationships that are used to approximate these explosion phenomena, in particular the Friedlander Decay Equation that characterizes the temporal variation of pressure, using Kingery Bulmash Relationships to determine peak incident pressure and decay parameters. Graphical techniques were used to illustrate attenuation of blast effects with distance, reflected pressure, effects of burst position, and air blast damage criteria.



Lecture Slide Depicting Air Explosion Phenomena

Mr. Hapij reviewed various construction materials – steel, concrete, timber, and unreinforced masonry – comparing their strengths and weaknesses in withstanding blast effects. He examined the consequences of blasts on structural and architectural building components, highlighting the propensity for loss of structural integrity, propagation of failure front, and response of conventional glass to blast.

Mr. Hapij then explored in detail design issues in mitigating blast effects, including hardening, perimeter protection, and protective design with curtain walls. He explained that, while the U.S. does not have Building Code requirements for blast resistance, there are many federal design guidelines and manuals that provide important design recommendations; one such recent example is FEMA 452 " Risk Assessment: a How-To Guide to Mitigate Potential Terrorist Attacks Against Buildings" (2005).



Slide listing the consequences of blasts

Mr. Hapij outlined various blast response simulation methodologies used to study blast phenomena and their effects on buildings, especially the Single Degree of Freedom (SDOF) analysis used by the majority of structural design industry. Other more involved simulation techniques include: (1) nonlinear dynamic finite element analysis, including large deformations and inelastic constitutive models; (2) decoupled simulation of air-structure interaction, and (3) more sophisticated fully-coupled approach using the computationally demanding ALE (Arbitrary Lagrangian Eulerian) or Standard Coupler Interface (SCI) methods.

Finally, Mr. Hapij offered a design philosophy based on a balanced, practical approach to protect against specific threat locations, to protect against ill-defined loads, to utilize increased redundancy to redistribute extreme loads, to allow for load reversals, and to eliminate threats both within and adjacent to a building.

Throughout the presentation Mr. Hapij used vivid imagery and animations to demonstrate, with startling clarity and in slow motion, blast phenomena and effects. He kept the audience engaged and involved with a balance of technical material and practical real-world problems.

Lecture attendees listening to Mr. Hapij's presentation

After the formal presentation, the audience participated in a spirited collegial debate over questions such as "could the WTC structural building collapse on 9/11 been anticipated and prevented?"

The evening finished with informal and convivial discussions over food and drinks.

The lecture counted towards NYS continuing education credit for licensed professional engineers.

Have you paid your Membership Dues?

Professional Members	***$50***
Retired Members	***$30***
Student Members	***$15***

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Keep Us Informed!!!

Please send news items, articles, information about our members and other interesting information to the following address:

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