October 2014

Four Dollars

AIA New Hampshire

NH forum

For those who shape the built environment

AIANH Tours a New St. Mary's Bank

Our November 6 AIANH Chapter Meeting will be a tour of the newest St. Mary's Bank building in Manchester, a high performance sustainable corporate headquarters and branch bank. The project, designed by Lavallee Brensinger Architects, is still in the documentation process but striving for LEED Gold.

You will learn something about St. Mary's Bank history in the City of Manchester and its commitment to the blue collar worker of the 1800s. Sustainable and green building elements include a high performance envelope, a high performing energy efficient heat pump mechanical system, reduced energy LED lighting, other sustainable interior features, and a building integrated photovoltaic array generator producing on-site power.

The program will start with the tour, then we'll move to the Riverside Room in the historic Waumbec Mill for dinner and a presentation on the challenges of design and construction in creating this building's unique façade and structure. 1.5 *AIA HSW LUs*.

More information and registration at http://www.aianh.org/news/aianh-events.

Sponsored by Consolidated Brick.

Inside View

NH Forum is published monthly by AIA New Hampshire, the New Hampshire Chapter of The American Institute of Architects.

For advertising rates and sizes, contact the AIANH office.

For membership information, contact the AIANH office.

Articles and graphic submissions should be sent to the AIANH office by the first of the month prior to publication.

AIANH
310 Marlboro St., 2nd Floor
Keene, NH 03431
Tel: 603-357-2863; Fax: 603-357-0835
E-mail: office@aianh.org
Visit our Website at **www.aianh.org**

Perspective

Point of view from the President of AIANH
Shannon Alther AIA

What is Quantum Mechanics? I was not entirely sure myself before starting this article.

Whenever this might have been taught in school, I must have been asleep or I missed that day entirely. So I decided to see if I could understand it based on some moderate internet research. After careful review, this is what I have found…

As noted by Wikipedia:

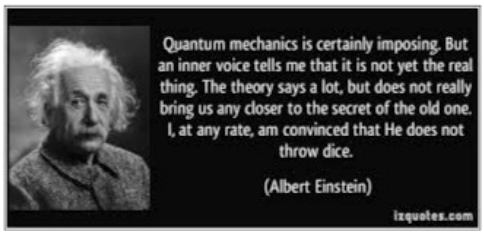
Quantum mechanics (QM; also known as quantum physics, or quantum theory) is a branch of physics which deals with physical phenomena at nanoscopic scales where the action is on the order of the Planck constant. It departs from classical mechanics primarily at the quantum realm of atomic and subatomic length scales. Quantum mechanics provides a mathematical description of much of the dual particle-like and wave-like behavior and interactions of energy and matter. (And summed up in the following equation.)

$$\Delta x \cdot \Delta p_x \geqslant \frac{\hbar}{2}$$ 2

Where x is the uncertainty in position, where p is the uncertainty in momentum and h is Plank's constant. The Planck constant is related to the quantization of light and matter. (And is noted by a specific value of 6.626x10-34 J-s)

Resultant: The more precisely the position is determined, the less precisely the momentum is known in this instant and vice versa.

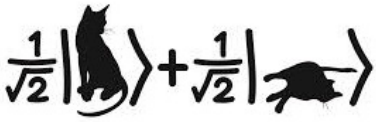
Some help from an expert: 3



To help further clarify and understand QM, a man with the first name of Erwin came up with a different way to outline the above principles, a hypothetical approach using cats:

1

This gentlemen by the name of Erwin Schrodinger, created a thought experiment using imaginary cats. In this experiment, he predicted that if you put two cats in two separate boxes, each with a bomb and ship them to either ends the known universe, one cat will be dead and the other will be alive. In no case will both cats be dead or both cats be alive. Always one dead, always one alive and the two "boxes" will communicate with each other so as to not create two alive cats or two dead cats. During the process of this experiment Erwin also realized that once you open either box, the results become known and the observer has collapsed the experiment into a real possibility. Erwin called this concept "entanglement."


4

Quantum Mechanics (QM) is a fundamental concept that is not yet fully understood since it is based on observations at subatomic levels (which we humans have a hard time of seeing.) QM bases it's results on the concept that the more you know about one thing, the less you know about another thing. And once you "open" the box, you have ruined the experiment. Suffice to say that QM is interesting, hard to understand and currently a hot topic in daily circulation.

QM is responsible for the technology of today including the transistor, the laser and the computer.

I definitely must have missed that day in school.

1: http://memecrunch.com
2: Wikipedia
3: http://izquotes.com
4: http://venitism.blogspot.com

Emerging Professionals Network

Point of view from the AIANH Associate Director & EPN Chair
Matt Lawton Assoc. AIA

The Architecture of Destruction

Architecture has been featured in movies for as long as there have been films. One of the first things written in most scripts, feature films and theatrical plays, is a description of the scenery. But recently, the Hollywood blockbusters have featured the destruction of New York City and San Francisco, as well as fictional cities like Metropolis (Gotham seems spared at this point!). The architect, or perhaps engineer, in all of us leads us to an interesting question: What is the overall toll for these massive disasters? In light of the recent natural disasters and terror events, the numbers are astronomical.

Kinetic Analysis Corporation, a leader in multi-model impact forecasting and risk assessment for catastrophic events, had some fun with two of the more recent disaster-films, Marvel's The Avengers, featuring the Chitauri attack to the New York City area, and DC Comic's Man of Steel, with General Zod's attack on the fictional Metropolis. For kicks and giggles, comparisons are later made to the overall financial impacts of true-life events.

The inter-planetary attack on New York City (with the addition of the self-sustaining Stark Tower) caused physical damage from the invasion at a rate of $60 to $70 billion dollars, with secondary impacts from clean-up, loss of business, disruption of services and commerce adding another $90 billion dollars, bringing the total impact to at least $160 billion dollars. At least two dozen buildings suffered extensive structural damage or collapse, but the majority of damage was to windows, facades and exterior features.

These numbers all seem high without any frame of reference. For comparison, Hurricane Katrina had an economic impact of over $90 billion, the 2011 Tohoku Earthquake and Tsunami cost $122 billion, and the 1995 Kobe Earthquake had an impact of $140 million dollars. The direct economic impact of the September 11, 2001 attack was $30 billion dollars, with a total impact of $83 billion.

The damage happened at the upper levels of a large number of buildings, which would be costly and timely to repair, due to lack of companies equipped to undertake the efforts. Numerous vehicles were damaged or destroyed, and significant damage was made to road and bridge infrastructure. Cleanup costs would also involved many difficulties, as the Chitauri are organic, and likely biohazardous and potentially radioactive in their nature. The cost implications indicate that insurance will likely be involved, but given that many of the involved individuals are considered deities, the event potentially could be classified as an "Act of God".

Metropolis is a more challenging problem, as the city is entirely fictional. However, Metropolis is analogous of New York, with New Troy being the island of Manhattan, and therefore provides a background for analysis. The damage from Zod's "World Engine" caused complete devastation for a radius of 1 mile, with a level of impact from a 20kt

Continued on page 14

Job Opportunities, Positions Sought

Job listings and positions sought listings are on the AIANH website: www.aianh.org/careers. To submit an ad, please email ad text to office@aianh.org. Job opportunity listings are free for AIANH members and $80 for four months for non-members. Listings for Positions Sought are free for everyone. Please include your contact information with your ad listing.

Nessebar, Bulgaria – Pearl of the Black Sea

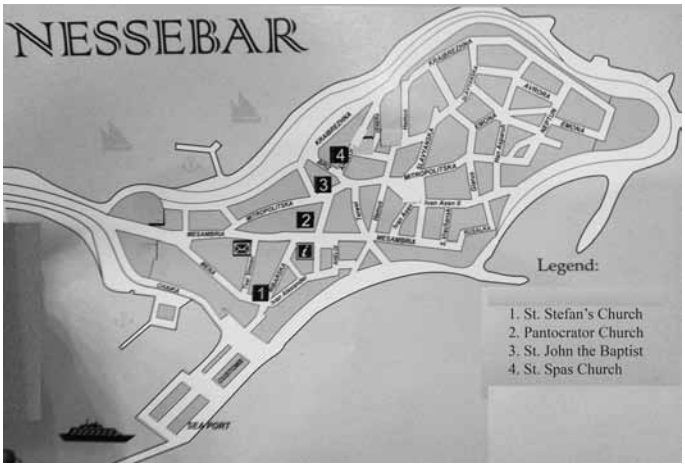
Text & Photos by Bruce Hamilton AIA

On July 25, I was able to step back in time for a delightful stroll through the heart of Old Nessebar, one of Bulgaria's most enduring towns and an UNESCO World Heritage Site. It is a place where many civilizations left their tangible traces: archaeological structures from the second millennium BC, a Greek Black Sea colony with surviving remains of fortifications, a Hellenistic villa, and the development of medieval religious architecture with rich plastic and polychrome decorations on its façades in the form of ceramic ornamentation typical for the period. It also has the charm of a fishermen's settlement with lovely restaurants overlooking the sea and the smell of the salty sea water in the air.

Nessebar's narrow cobble street

After meeting our tour guide, we enjoyed walking through the maze of Nessebar's narrow cobbled streets, which are home to many historical wooden houses from the Bulgarian Revival period. Around almost every corner you will find unusual churches which create the uniqueness of old Nessebar. At the end of the Mena Street, we reached St. Stefan's Church. Built in the 11th century, the building exterior consists of stones and bricks. It is one of the rare monuments with well-preserved frescos from the 16th-18th century. On the flooring inside the church, old Hellenic grave stones were laid. A medieval marble cornice with relief ornamentation was used as a step, leading to the Holy doors of the altar. By its original architecture, wood carvings, painted iconostasis, and artistic wall paintings, the church of St. Stefan is arranged between the most remarkable monuments of Bulgarian cultural heritage. Today, St. Stefan's Church is a museum and welcomes tourists during the summer months. At this point we walked on to Mesambria Square to visit the 14th century Church of Christ Pantocrator. It is 15.57 meters long and 6.86 meters wide. The external ornamentation of the church is rich with embellishment details. The most lavishly decorated part of the church is the east side of the apse. Interchanging three or four rows of bricks and carved stone, which create an optical pattern, are the most basic type of decorations used. Rows of blind arches, four-leaved floral motifs, and circular turquoise ceramics and brick swastika friezes run along the east wall. The narthex, which is located above a vaulted crypt, is separated from the rest of the church by a massive wall with an opening for a staircase to the belfry. Today, the church houses an art gallery which exhibits works by Bulgarian artists.

As we continued on our walking tour, my attention was drawn to a very small church, non-typical of Nessebar. I got the impression that it was trying to deliberately conceal itself by a low profile, erected

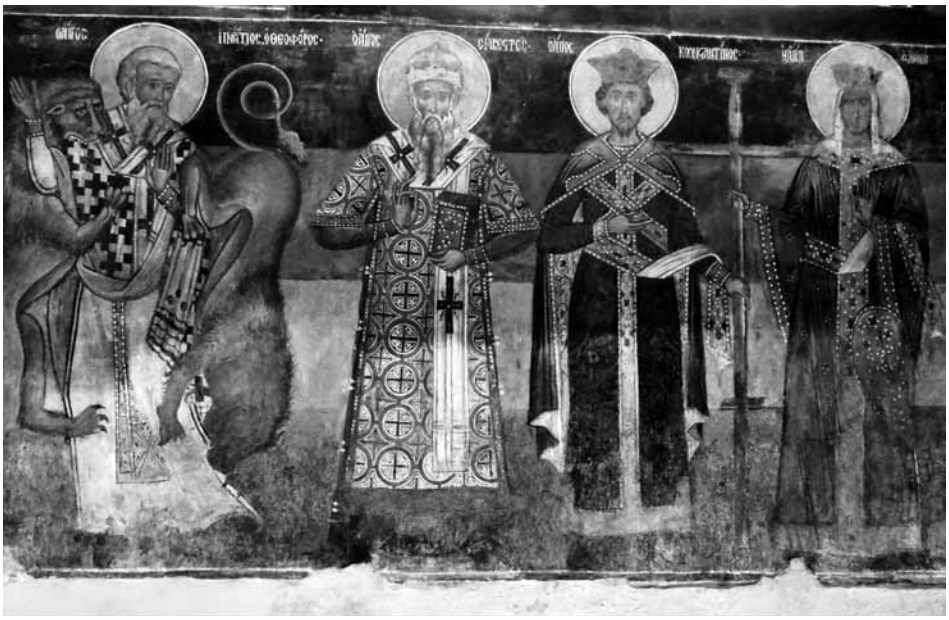


Churches of Nessebar

from mud and stone. This is the Church of Saint Spas, built in the 17th century. On entering the church, I was amazed by the magnificent mural frescoes that represent episodes of Christ and the Holy Virgin. Today the church is a museum.

We continued our promenade along Mitropolitska Street, which took us to the next church, one that differs in style and dates from another period – Saint John the Baptist. Built in the 10th century, it is an example of the transition from the short basilica to the cruciform dome churches. This building was built from stone with the use of red mortar. There is an early form of scanty decoration made of bricks at the exterior windows and above the entrance door. The church is almost 14 meters long and 10 meters wide. The apses are semi-cylindrical, and there is a peculiar high step along the lower part of the central one obviously serving as a seat. Today a gallery exhibiting works of art is accommodated in the church.

This is where our walking tour in Nessebar came to an end. Our tour group got to know the Bulgarian town and visited sites of World Cultural Heritage. The vernacular architecture of the urban ensemble, dominated by medieval churches and archaeology, together with the unique coastal relief, combine to produce an urban fabric of high quality. The historical monuments are not silent and lifeless; on the contrary, they are busting with the sound of multilingual voices, the laughter and noise of tourists in the thousands that have come from places distant and near. Even as I departed, I knew Nessebar, the eternal town, would always live in my memory. ▯



Clockwise from top of page with key to map on page 6: Fresco in St. Stefan's Church (1), Church of Saint Spas (4), St. John the Baptist Church (3), Church of Christ Pantocrator (2), St. Stefan's Church (1)

Details...

Eckman Construction has completed work on a new signature residence hall at St. Anselm College. This signature building, which blends a classic monastic design with a modern aesthetic, was designed by **Lavallee Brensinger Architects** and JSN Associates. Civil design was provided by **TF Moran.** This project marks the 14th project on the St. Anselm College that Eckman Construction has built. The 47,000 square-foot facility was completed in August and on time to greet new and returning students attending the college this fall.

"We deeply value the partnership that St. Anselm College and Eckman Construction have shared over decades of working together," noted John Deloia, Vice President and Project Executive, Eckman Construction. "The new building reflects the history and Benedictine tradition that makes St. A's such a special place. We are thrilled to help support the College's efforts to constantly improve the student experience."

The Host of PBS's "Cool Spaces" on Studio Synergy and the Danger of Archi-Speak

Architizer spoke with the Stephen Chung AIA, Boston-based architect and host of PBS's acclaimed series, "Cool Spaces: The Best New Architecture" as he prepared to speak at the recent AIA DC conference,"Smart Synergies." (Reprinted here from www.architezer.com.)

How has hosting "Cool Spaces" offered new ways for exploring architecture?

There really have not been other programs in architecture — there was one other series in 2009, 'What the Window Washers Saw,' and then that whole network went under. And then there was just 'Pride of Place' by Robert Stern in the '80s. For 'Cool Spaces,' we really had to work on how and what presentation would work for a television show.

TV is its own medium and we had to find a way that would be interesting for the audience. When I was explaining the show to people, I suggested looking at the Food Network and Travel Channel. Look at Andrew Zimmern, who says that exploring a culture's food is the best way to explore a place. We adapted that and said the best way to explore a place and get to know it is through architecture.

In the show, a building is not the star — its people are: client, architect, end user. You don't relate to a museum; you relate to the people who use it or had a role in creating it. On screen, there has to be action and movement. Walking and talking is deathly for TV these days. For example, he have live drawing on the screen in the same way as Monday night football in order to show action and activity.

What are some of the misconceptions about collaboration in architecture?

I think that people get the wrong impression about architecture. They see one name on a building and think, 'Oh, X Architect is behind this project.' Not only is there an enlightened client or owner, but also an architecture team, design team, consultant team. You need all of these things to work or else it's not going to be a great building. People see 'Frank Gehry' on the door and don't realize it's a constellation of people that bring architectural success.

And that extends to the TV show. You have me, the architect, but then a great director, a producer who's great at telling stories, and a photographer, who has a different kind of take on telling stories visually. We have to be able to work collaboratively to pull this all off. People give me a lot of credit because they see my face, but it's really about being open and collaborative — otherwise it'd be nothing.

What is the biggest challenge in collaboration among architects?

It definitely is a challenge, and I think it derives from architecture school. Students are generally doing projects by themselves, and the reality is that no project is like that. Most architecture of any impact comes from a team. Everyone needs to set aside their egos and embrace different skill sets to bring it all together to get to a common goal. But I never would have said this when I was younger!

How can architects be better communicators?

For me, it's trying to integrate ourselves into the conversation of TV and to connect to a general audience — people who are not architects. We tend to have our own language and vocabulary that we enjoy, but it's not effective. When it comes to speaking to a general audience, architects don't switch languages. Either they don't want to, or they're oblivious, or they don't care. They say, 'You don't get it? Too bad.'

That's a terrible attitude, and then people say, 'I don't care either.' I really have to work very hard when working on our program. We do a lot of stand-up meetings in a lot of ways where we ask each other, 'So what are you trying to say?' It's less about trying to sound impressive and more about communicating.

Continued on p. 15

Structural Column

by Jeff Karam PE

Eye Rolls

A few columns back I wrote that you could excite an engineer by saying their design looks "over engineered." With this column I'll share a couple of ways that you can get a structural engineer to roll his or her eyes. The single most effective way is to refer to concrete as cement. As we all know, cement is only one component utilized to make concrete. The adage is "you don't call a cake flour." Personally, I've partially made peace with this and I don't let if frustrate me anymore. I say partially because if I hear someone say cement when they mean concrete I won't correct them; unless it's my wife or kids. I'll admit that when I read construction books to my two children I do make sure I say concrete where it's appropriate and cement where it's appropriate. One of their books is rhyming but I don't read "cement" the way the author intended just because it rhymes. I say "concrete." To me the lack of the rhyme is a little jarring but not worse than the use of the incorrect term. Luckily my kids have never wondered, at least aloud, why that one paragraph out of the entire book doesn't rhyme. I realize maybe I'm being a little silly. Ok, I'm being really silly. It's not as if they'll really be better off in life being able to refer to the sidewalk as concrete rather than cement.

Another commonly misused word related to concrete is referring to the process of hydration as drying. This too can get an eye roll from an engineer. Primarily concrete is a mixture of water, fine aggregates, coarse aggregates and cement. The water and cement together is defined as paste which when mixed coats the surface of the aggregates. The chemical process called hydration results in the paste hardening and forming the composite mixture we all know as concrete. Whenever I hear someone say that concrete dries I think of what a friend once said: "if concrete dried then every time it rained buildings would fall down!" It's amusing to me picturing people vacating a building frantically because afternoon showers were expected.

I'm certain structural engineers struggle with the many terms common place in architecture. I've only just had the occasion to use the word fenestration and I've even correctly used vernacular. Well, at least the architect in my presence didn't correct me when I said vernacular!

Thank you for reading. If you have comments or suggestions for future columns relating to the practice of structural engineering please contact me via jeff@evergreenstructural.com.

— Jeffrey Karam PE is the principal of Evergreen Structural Engineering, PLLC, www.evergreenstructural.com

I'll share a couple of ways that you can get a structural engineer to roll his or her eyes. The single most effective way is to refer to concrete as cement.

Visit us on Facebook!

AIANH: www.facebook.com/AIANewHampshire

AIANH Emerging Professionals Network: www.facebook.com/AIANH.EPN

Thank you to the following sponsors of our AIANH - GSLA Joint Meeting at The Fells.

Gold Sponsors

TMS architects

VICTOR STANLEY™
Create a timeless moment.™

IRONSMITH

SHELDON PENNOYER ARCHITECTS
ARCHITECTURE PLANNING + DESIGN

MILLICAN NURSERIES, INC.

Silver Sponsors

AW Hastings/ Marvin Windows & Doors

Design Works Landscape Architecture & Construction

Joshua F. Walter AIA

AIANH & GSLA Enjoy The Fells

by Jennifer DiNovo ASLA, GSLA Secretary; Photos by John Hession

AIANH and the Granite State Landscape Architects had a fantastic joint meeting at the beautiful Fells Historic Estate and Gardens. We had perfect weather to enjoy the gorgeous gardens and views of Lake Sunapee.

The Fells is one of one of New England's finest examples of an early 20th-century summer estate. The 22-room Colonial Revival home and surrounding 83.5 acres was founded by diplomat and statesman John Milton Hay, who was the private secretary to Abraham Lincoln.

GSLA Chair Susanne Smith Meyers leads guests through the rock garden at the Fells.

Under a tent at Dexter's Inn, Roger Wells FASLA told a riveting story about the preservation of The Fells.

For more information on its history, visit www.thefells.org.

The evening started with a self-guided tour of the historic gardens, during which landscape director Joe Thompson offered interesting facts about the property and the gardens. This was followed by a dinner at Dexter's Inn in Sunapee and a presentation by Roger Wells FASLA (Roger is also one of the ASLA/GSLA's emeritus members). Roger's presentation, on "Saving the Fells" covered how volunteerism, as a form of community support, can be used as a vital tool in successful and on-going historic preservation and environmental conservation. He also touched on master plans for preservation, conservation, sustainability, and how community outreach can be used as a critical component for the sustained vitality of a preservation project.

Roger's presentation was well received, as it touched on a variety of tidbits that both landscape architects and architects could take home. Thank you Roger!

Top photo: Your AIANH Board Members hard at work. President Shannon Alther AIA and President Elect Paul Bourbeau AIA did duty as bartenders. Doug Stewart AIA awaits his refreshment.

Bottom photo: Kim Bonin, Jeremy Bonin AIA, and Greg Rusnica ASLA at The Fells.

Details ...

Christopher Mulleavey has been appointed to the Board for the NH Joint Board of Licensure for Engineers. He is the current President and CEO of **Hoyle, Tanner & Associates, Inc.**

Having grown up in New Hampshire, Chris attended the New Hampshire Vocational Technical College in Berlin acquiring his AS in Applied Sciences before continuing his education at New England College in Henniker and receiving his BS in Civil Engineering. Chris received his New Hampshire Professional Engineer License in 1999 and throughout his career has made a positive impact on many communities throughout the State.

When asked about why he joined the Board Chris stated "I am proud to be a Professional Engineer and see this as an opportunity to give back to the engineering community and promote our profession."

North Branch Construction has recently completed the renovation of a new Dish Network Installation Support Center in Concord. The 4,000 square foot site is the former headquarters of John's Wrecker Service. Upgrades to the building include a new entry, new office spaces and finishes, and new metal siding.

Submit Your Details...

Do you have an interesting job on the boards or one that is newly completed? How about a new hire, a promotion at your firm, or someone had a baby? Maybe you've recently received an award or had your project featured in a magazine?

Send us the information and we'll print it in our "Details..." columns. Email to office@aianh.org. Photographs can also be used (300 ppi).

AIA+2030: Prepare for the New Energy Future…Session V & VI Recap

by Dale Doller AIA, LEED AP

This article is a combined follow-up summary to Sessions V & VI. It is very appropriate to share these session information together because they work hand-in-hand. Passive energy design and daylight design are two of the oldest technologies spanning back to early civilizations….taking advantage of the sun and climate of the local area.

We are pleased at how well these sessions are going and the great feedback we have received. Please keep sharing your comments and suggestions. And, pass the word on to others about how great these education sessions have been!

The 2030 Challenge encourages us to create a better environment for all of us by making better choices in how we design to improve our energy efficiency and reliance on non-renewable fuel sources. These articles are offered as a follow-up and brief review to share some of the important messages learned and questions raised.

Session V, August 21, 2014 — Passively Aggressive: Employing Passive Systems for Load Reduction

I would like to express our thanks to our presenters, **Jordan Goldman LEED AP, CPHC,** a specialist in energy modeling and mechanical engineering at ZeroEnergy Design; to **Troy Peters LEED AP,** an Associate Professor at Wentworth Institute of Technology and founder of ArchiPhysics; and to **Colin Schless LEED AP, CPHC,** a project director at Thornton Tomasetti specializing in commercial building energy analysis. We

AIAVT/AIANH Joint Annual Meeting
October 23, 2014

Tour of Moffatt-Johnson "MOJO" Building (White River Junction)

Presentation, Tour and Cocktail Reception at King Arthur Flour Bakery, Café & Education Center (Norwich)

3:45-8:30 p.m.

2.5 AIA LUs / **Details & Registration www.aianh.org/news/events**

sincerely thank them for sharing their expertise in order to help us make better choices in our designs.

Properly designed, a building captures existing site resources such as light, wind, and solar radiation to provide for the comfort and needs of occupants. Passive systems work in concert with site resources to manage building energy demand through design.

This session was packed with a lot of information on passive systems technology. We started with reviewing the fundamentals and history of passive systems. This simple and natural design technology reaches back to very early pre-20th century worldwide civilizations. Even our early 18th century ancestors used passive principles in controlling their built environments.

Passive systems had to be responsive to the local climate. "Passive survivability" is a new term we learned that describes how buildings should be designed and built to assist the survival of their occupants in the wake of disaster.

We looked at passive cooling and ventilation systems. By integrating passive systems with active cooling and ventilation, we can create hybrid and mixed mode systems that can combine the best attributes of passive and active systems. The opportunities of such systems are energy savings, lower operational and maintenance costs, improved connection to Nature, and flexibility and resiliency. However, there are some hurdles, such as getting occupant acceptance for broader comfort criteria, code requirements that may cause passive systems to be impractical, getting occupants to manage buildings themselves, and dealing with overly high expectations about the performance of non-traditional buildings.

We reviewed passive system strategies and how to implement them. We saw the advantages and pitfalls of different passive solar heating systems such as direct gain, thermal storage wall, and sunspaces. We saw how shading and night insulation are important components and how they can monitor and control solar gain and heat loss. Building orientation is key to making solar strategies successful.

We learned how natural ventilation could be advantageous to building design and the reduction of active cooling load demand. But, utilizing natural ventilation is very limited by the local/regional natural environmental conditions so one must decide if it's financially and functionally viable. We saw examples where natural ventilation and cooling did provide enhancements to the indoor environment.

The session concluded with a case study

Continued on page 12

Presenters for Session VI of the AAIA+2030 Series were from left, Keith Yancey AIA, IALD, LC PE; Vic Reno IALD, LC, LEED AP, and Glenn Heinmiller PE. At far right is John Hession, organizer for this session, and our photogrpaher and sound person. *Photo by Dale Doller with John Hession's camera!*

***2030 RECAP** Continued from page 12*

on the Hollis Montessori School "passivehouse" design. The design characteristics for this project was a long southern exposure with insulation values for walls at R-41, roof at R-111, and slab on grade at R-54. Along with building thermal design to reduce environmental loads, building orientation was critical for solar gain, optimal daylight design with integrated artificial LED illumination, and integrated natural ventilation. Building envelope detailing along with window and door selection was critical in the overall project performance.

(See photos from Session V in the September NH Forum.)

Session VI, September 25, 2014 — Illuminating Savings: Daylighting and Integrated Lighting Strategies

Thanks to our presenters, **Glenn Heinmiller IALD, LC, LEED AP** and **Keith Yancey AIA, IALD, LC, PE,** both principals at Lam Partners Inc. of Cambridge, MA, and to **Vic Reno PE, IES, LEED AP,** a principal of Reno Engineering & Light Design in Marlow, NH. Their expertise will inform the choices we make for our clients in our ever-changing environment.

Lighting constitutes 29 percent of a typical American office building's energy load. Proper lighting is critical to occupant comfort and productivity—and an exploration of daylight and efficient artificial lighting is an exploration of integrated design. This session explored natural light as part of a site's resource inventory and identified strategies for maximizing its application while controlling for glare and unwanted heat gain.

The session started with a review of early design, a lesson in architectural history of early civilizations' design with natural lighting, followed by a look at American office space design in early to mid-20th century design. And then came inexpensive artificial lighting in the mid-20th century after WWII, which lulled us into using new technology and inexpensive energy over natural design practices. Where did we go wrong? We used to do sustainable design in the past…we just forgot!

We looked at different artificial light sources types and controls of the present and past and their pros and cons. And, we looked at the use of natural light from the

sun to illuminate spaces, realizing there is room for both by taking advantage of their best attributes to bathe our spaces with light and make them alive.

The presenters reviewed the basic principles of daylight lighting and the prescriptive paths from top and side lighting. We spent time looking at daylight modeling by simple manual practices and by computer programs. Keith Yancey shared a number of actual projects where daylight design was studied using both of these methods.

The principals and strategies for day-lit architecture are to design for the appropriate quality and quantity of daylight, to control brightness and contrast, balance daylight in space and time, to celebrate the unique qualities of daylight, to use the interaction of light and building forms, and to provide for views, solar control, and integrating artificial electric lighting.

We concluded the session with some case studies of actual projects. One was the Pittsburg, PA convention center with its transparent roof skin. We also saw daylight design solutions for a residence and an elementary and middle school here in New Hampshire.

The focus of this session was to show how daylight design can enhance visual and spatial environments using useful comfortable natural illumination while reducing energy consumption of artificial lighting. We were told, "Question everything"! Good lighting design is good for people. It increases productivity, profits, and health!

I hope you have had some discussion with others during these two sessions and have been stimulated to ask more questions on how we design comfortable, high performance, resilient buildings in the 21st century that will last into the 22nd. I also hope you collected some great thoughts and ideas for your next project and client. Let's share what we have learned and experienced! Discuss these ideas with your staff and clients and other design professionals and expand the dialogue. I look forward to your sharing comments and thoughts with me! Send them to me through the AIANH office and I will be happy to offer them here with everyone.

Thank you to our 60 series registered attendees for having the forethought to see value in this educational series. Hopefully this program encourages you to strive for higher performance, sustainable, regenerative, energy efficient design solutions for our built environment!

Again, a huge thank you to our sponsors for their support of this important educational series and their belief and dedication to sustainability. *Platinum Sponsor:* **Bensonwood,** and our *Gold Sponsors:* **Eckman Construction, Milestone Engineering & Construction Inc., ProCon, RPF Environmental,** and **Martini Northern.**

The mission of the AIA 2030 Commitment program is to take the aspirational goals of 2030 and transition to the reality of achieving tangible, strategically targeted, performance goals on every project we touch.

Details...

Milestone Engineering & Construction, Inc. has completed the Plymouth branch bank for Bank of New Hampshire. The Architect for the project was **Dennis Mires, PA, The Architects.** The branch includes a teller line, drive up window, private offices and a conference room. The exterior is a brick veneer with PVC detail trim for low maintenance. The wood work was installed by Milestone's craftsmen.

LAWTON Continued from page 3

nuclear explosion. The level of destruction and loss of life is on a completely different level than The Avengers, as much as $2 trillion dollars in total impact.

These numbers all seem high without any frame of reference. For comparison, Hurricane Katrina had an economic impact of over $90 billion, the 2011 Tohoku Earthquake and Tsunami cost $122 billion, and the 1995 Kobe Earthquake had an impact of $140 million dollars. The direct economic impact of the September 11th 2001 attack was $30 billion dollars, with a total impact of $83 billion. In comparing the World Engine, as far as explosive impact, a comparison can be made to the nuclear attack at Nagasaki, with 129,000 confirmed dead, 250,000 missing, and 1 million injured, with $750 billion dollars in physical damage alone.

It's fun to look at the disaster in films, but in reality this level of destruction is catastrophic. As architects, we have the ability to help in the aftermath, with analysis of existing structures in disaster areas, using our skills to help communities recover. AIA New Hampshire has a Disaster Assistance committee, the NH Architects & Engineers Emergency Response Task Force (NH AEER TF). If you would like to volunteer on the disaster assistance team, please contact Carolyn Isaak for more information about training and participation, or Paul Bourbeau AIA to learn more about the Task Force.

If you are interested in submitting ideas for future programs, have thoughts about the future of the profession as a young architect, would like to be added to the email list, or would like to get involved, we'd love to hear from you. Send your email address to mlawton@connollybrothers.com.

As architects, we have the ability to help in the aftermath, with analysis of existing structures in disaster areas, using our skills to help communities recover.

Construction Summary

Project Type: Police Department Building & Parking Garage
Cost: Approx. $9,600,000
Location: Dover, NH
Owner: City of Dover
Architect: Lavallee/Brensinger PA
Const. Mgr.: Harvey Construction Corp. of NH

Project Type: Manchester RC Building Renovations (National Guard Armory)
Cost: $1,258,790
Location: Manchester, NH
Owner: State of NH-DOT
Architect: AEC Group
Engineer: CSI Engineering
Gen. Cont.: DL King & Associates Inc.

Project Type: Comprehensive Airport Master Plan (Lebanon Municipal Airport)
Location: Lebanon, NH
Owner: City of Lebanon
Engineer: McFarland Johnson

Project Type: Psychiatric Crisis Beds & Security Upgrades (Acute Psychiatric Services Building)
Cost: $2,426,484
Location: Concord, NH
Owner: State of NH-DOT
Architect: Harriman Associates
Gen. Cont.: Harvey Construction Corp. of NH

Project Type: Town Hall & Theatre Restoration
Location: Dunbarton, NH
Owner: Town of Dunbarton
Architect: Dennis Mires The Architects
Const. Mgr.: Milestone Engineering & Construction

Project Type: Hannah Grimes Center Renovations
Location: Keene, NH
Owner: Hannah Grimes Center Inc.
Architect: Catlin & Petrovick Architects
Engineers: WV Engineers, SCT Engineering
Owner's Rep: Steve Horton Construction Consulting Inc.
Gen. Cont.: DEW Construction Corp./ MacMillin LLC

Construction Summary is provided by Construction Summary of NH, Inc. 734 Chestnut St., Manchester, NH 03104

Project Type: Trip Center Renovations (B Rowell Community Center)
Location: Franklin, NH
Owner: City of Franklin
Architect: Barker Architects Inc.
Gen. Cont.: Laplante Builders

Project Type: Alton Central School Additions & Renovations
Cost: $3,203,000
Location: Alton, NH
Owner: SAU 72-Alton School District
Architect: CMK Architects
Engineers: Tighe & Bond, Engineered Building Systems Inc., McGill Engineering
Gen. Cont.: Bauen Corp.

Project Type: Woodcrest Family Housing Renovations
Cost: $2,142,788
Location: Winchester, NH
Owner: Southwestern Community Services Inc.
Architect: Burnell/Johnson Architects
Engineer: SVE Associates
Gen. Cont.: Cheshire Builders

Project Type: Renovations To Level G of Diamond Library For The IT Academic Technology Group (#11958-0001)
Cost: $650,000
Location: Durham, NH
Owner: University of NH
Architect: Harriman Associates
Const. Mgr.: Shawmut Design&Construction

Project Type: Student Housing (Madbury Commons) (126 Units)
Location: Durham, NH
Owner: Golden Goose Properties
Architect: TMS Architects
Engineers: Engineered Building Systems Inc., Petersen Engineering, Evergreen Structural Engineering
Const. Mgr.: Pro Con Inc.

Project Type: High School Renovations
Cost: $22,000,000
Location: Pelham, NH
Owner: Pelham School District-SAU #28
Architect: Lavallee/Brensinger PA
Engineers: Tighe & Bond, Yeaton Associates, Foley Buhl Roberts & Associates
Const. Mgr.: Bonnette Page&Stone

***COOL SPACES** Continued from page 6*

We're so impressed with our own language and vocabulary — thinking back to my college papers, that was just to impress an academic. That's not how to communicate to a client.

What's your favorite architectural destination in DC?

Definitely the national building museum. They have great programs, great talks, and are great at communicating the importance of architecture and the built environment to the general public. Plus, it's such an impressive, grand public space. You're surrounded by wonderful exhibitions, a bookstore, all of these things that are so supportive of our field. I don't know of places like that in other cities.

Calendar of Events

Oct 16 **Session VII, AIA+2030 Professional Series,** www.aianh.org/news/aianh-events

Oct 23 **AIAVT / AIANH Joint Meeting at King Arthur Flour ,** 3:45 pm to 8:30 pm. AIAVT and AIANH member tour of Moffatt-Johnson "MOJO" Building (White River Junction, VT) and presentation and tour of King Arthur Flour Bakery Café and Education Center (Norwich, VT). Cocktail reception at King Arthur. *2.5 AIA LUs.* Details and registration: www.aianh.org/news/aianh-events

Oct 28 NH Energy Code Challenge: Residential Workshop, Woodstock Inn Station and Brewery, North Woodstock, NH, *6 AIA HSW LUs.* Register at: www.nhenergycode.com

Oct 28-30 ABX 2014, Boston Convention and Exhibition Center, http://abexpo.com/

Nov 6 **AIANH Chapter Meeting at St. Mary's Bank,** Manchester, followed by reception at the Riverview Room in Manchester. *1.5 AIA HSW LUs.* Details and registration: www.aianh.org/news/aianh-events

Nov 19 NH Energy Code Challenge: Residential Workshop, Rodgers Memorial Library, Hudson, NH, *6 AIA HSW LUs.* Register at: www.nhenergycode.com

Nov 19 Universal Design 101. Plan NH hosts a workshop to raise awareness of how we need to factor in – in our planning, design and development of the built environment – mobility, sensory, and cognitive challenges most of us will face at some point; East Conference Room at NH Housing, 32 Constitution Drive, Bedford NH. 1:30 pm to 5:00 pm. *2.5 AIA HSW LU's.* www.aianh.org/news/aianh-events

Nov 20 **Session VIII, AIA+2030 Professional Series,** www.aianh.org/news/aianh-events

Dec 4 NH Energy Code Challenge: Commercial Workshop, Schiller Station, Portsmouth, NH, *6 AIA HSW LUs.* Register at: www.nhenergycode.com

Dec 11 **AIANH Education Day,** Audubon Center, *AIA HSW LUs available,* www.aianh.org/news/aianh-events

Jan 22 **Session IX, AIA+2030 Professional Series,** www.aianh.org/news/aianh-events

Jan 23 **AIANH Excellence in Architecture Awards Celebration**, LaBelle Winery, Amherst, NH. Details and registration information to come.

Feb 1-3 Getting to Zero National Forum, Fairmont Hotel, Washington, DC. www.gettingtozeroforum.org

Feb 26 **Session X, AIA+2030 Professional Series,** www.aianh.org/news/aianh-events

AIA New Hampshire

AIA New Hampshire
310 Marlboro St. 2nd Floor
Keene, NH 03431

Address Service Requested

Presorted Standard
US Postage
PAID
Permit No. 9
Jaffrey, NH

Printed on Recycled paper

Photo of the Month

"We went to Croatia recently and had a blast – picking up our daughter who was studying abroad in Denmark (also have an uncle in England we were checking in on). Anyway, we stayed in Air B and B's. This was an apartment overlooking the roofline of Split, Croatia. The cool thing was it was densely populated but you didn't hear people much because they kept their voices down due to the close proximity. Split is extraordinarily historic, something like 2000 years old…"

Photo by Jim Loft AIA, Pro Con Inc.

Do you have an interesting photo? Why not send us one to print? 300 ppi jpegs, approximately 4 x 6 inches, BW or color. (photos are also posted on the website at www.aianh.org/news/photo-of-the-month.) Send along a title, caption, and your name, to office@aianh.org.