



## 2012 RESNET Building Performance Conference Agenda

### ***Committee and Board Meetings:***

#### **Saturday February 25, 2012**

RESNET Accreditation Committee

9:00-10:00 AM- Glass Oaks

Open to Public

RESNET Training and Education Committee

10:00 AM-Noon- Glass Oaks

Open to Public

RESNET Quality Assurance Committee

1:00-3:00 PM- Wedgewood

Open to Public

RESNET Technical Committee

2:00-6:00 PM- Glass Oaks

Open to Public

#### **Sunday February 26, 2012**

RESNET Board Meeting

8:30 AM- Noon- Glass Oaks

Open to Public

### ***Pre-Conference Sessions:***

#### **Two Day Courses**

##### **Manual-J Training**

***Saturday 2/25 & Sunday 2/26 8 AM-5 PM***

Presenter: Isaac Savage, Home Energy Partners

Room: San Antonio

Grow your business by offering Manual-J calculations! Now that room-by-room Manual-J load calculations are required by Energy Star, you have a great opportunity to grow your business! In addition, the savings in HVAC equipment costs typically saves your client more than they have to spend to have you perform the calculation! Manual-J is the first step of the HVAC design process. This process ensures that the designer understands the true energy needs of a building, so that a properly sized system can be selected. Due to the presence of new building materials, advanced insulation systems, solar design strategies, and efficient ventilation systems, it's impossible to use rule-of-thumb sizing methods and achieve accurate results. Whether you're an HVAC contractor, an energy auditor, or a HERS rater, this class will provide you a better understanding of proper system sizing and the implications of doing things the "wrong" way.

You'll leave this class familiar with Wrightsoft software, enabling you to easily perform load calculations for yourself or your clients. Students must bring their own laptop, as you'll be using a demo copy of Wrightsoft software to do in-class and homework problems. \*Pre-registration is required

Pre-registration is required through <http://store.homeenergypartners.com/index.php/training/manual-j.html>  
Cost: \$475

### **Energy Efficient Mortgage (EEM) Partner Training for HERS Raters and Contractors**

**Saturday 2/25 & Sunday 2/26 8 AM-5 PM**

Presenter: Jason Payne, EEM Training LLC

Room: Nueces

This two-day course will properly prepare HERS Raters and Home Performance Contractors to complete the entire process of each type of Energy Efficient Mortgage. It will cover topics such as: FHA, VA, and conventional guidelines, Existing home and new construction EEMs, Completing an EEM step-by-step, Proper documentation and report requirements, How to use REM/Rate effectively, Working with lenders and real estate agents, Case studies of new purchases and refinances, Marketing ideas and strategies. Plus, you will get tools and materials that will simplify the process and minimize your turn-around time which is critical to your success, and the success of your clients. After completion of this course, you will receive an EEM Partner designation, and you will be prepared to facilitate EEMs from start to finish and confidently add this underutilized product to your range of services. *\*There is a 20 person maximum limit for this course*

Pre-registration is required through [www.eemtraining.com/resnet-conference-registration](http://www.eemtraining.com/resnet-conference-registration)  
Cost: \$549 Early Bird through Feb. 10, \$599 after Feb. 10

### **Comprehensive Energy Auditor Training**

**Saturday 2/25 & Sunday 2/26 8 AM-5 PM**

Presenter: CT Loyd, Texas HERO

Room: Pecos

This 2 day course is based on the Texas Home Energy Audit Standard, developed by Texas HERO. It is designed for current HERS Raters who are interested in pursuing the existing homes market. Current certification as a HERS Rater is required prior to attending this course. This course includes training on how to prioritize improvement recommendations based upon findings, software analysis, writing scopes of work and combustion safety testing. This course includes both lecture and field work. This course is Texas Home Energy Audit Standard specific. The test is a 2-hour written exam, multiple choice, open resource (standard and course material). The students will jointly perform an audit on an example home, observing the performance combustion safety tests being conducted. Students will then perform software analysis and produce scopes of work for the home as well.

Pre-registration is required through <http://www.txhero.org/> (Available after December 1st)  
Cost: \$695 - with a \$100 discount to those who attend the RESNET Conference or join Texas HERO

### **LEED for Homes Green Rater Training- 2 day Workshop**

**Saturday 2/25 & Sunday 2/26 8 AM-5 PM**

Presenters: USGBC Faculty

Room: San Marcos

The LEED for Homes program has a total of 45,000 registered residential units and over 12,000 certified units. Over 14,000 units have been registered in 2011 alone. As of January 1, 2011, all registered LEED for Homes projects must have a LEED for Homes Green Rater on the verification team and HERS Raters are ideal professionals to conduct the required performance testing and verify the home's green measures. LEED for Homes Green Raters must meet professional eligibility qualifications, participate in the Green Rater Training, and pass an assessment before verifying

LEED for Homes projects. Once in the field, they complete a mentorship before earning their certificate. The result: A strong credible program supported by arguably the most qualified, competent and successful green raters in the industry. Join us for the 2 day workshop portion of the training. Upon (and included) in registration, you will receive access to 5 online learning modules that must be completed before arriving to the workshop portion.

Pre-registration is required- [www.usgbc.org/homes401](http://www.usgbc.org/homes401) (Available at the end of November)

Cost: USGBC Member-\$660, Non-members-\$795

### **2009 IECC International Energy Conservation Code Fundamentals**

***Saturday 2/25 & Sunday 2/26 8 AM-5 PM***

Presenter: Terry A. Collins, Abaci Energy Efficiency

Room: Trinity A

Official ICC International Code Council Curriculum developed by the ICC Training and Education Department. Two Day class in which attendees will learn how to apply the 2009 International Energy Conservation Code and how to increase and ensure that energy efficiency is built in during the construction of new buildings and during alterations to existing buildings. Residential, Commercial, and Mixed Use buildings will all be covered. The course will provide an overview of the critical concepts included in the 2009 IECC. By learning and understanding these concepts, attendees will be provided the knowledge base needed for the correct use of the code in the design, plan review, inspection and analysis of projects. Also, the course will provide a clear understanding of the requirements identified in the basic code provisions, tables, and categorizations within the 2009 IECC. Participants will also be able to apply the code in clear-cut situations and to build their understanding of the intent of the code when asked to make code compliance decisions. The American Recovery and Reinvestment Act of 2009 will be discussed.

In this course, you will learn to:

- Locate general topics in the 2009 IECC
- Locate applicable tables in the 2009 IECC for specific situations
- Apply code requirements to real-world situations
- Explain the intent behind code requirements
- Identify borderline scenarios as compliant or noncompliant
- Identify essential code components for designing energy-efficient building thermal envelopes
- Understand energy-efficient mechanical design principals
- Design electrical power and lighting systems that meet code requirements

Attendees will receive a 2009 IECC Code Book and 2009 IECC Workbook for use during and after the course.

Pre-registration is required through <http://2009ieccaustin.eventbrite.com/>

Cost: \$703 with an Early Bird Price of \$575 until February 4, 2012

### **Train the Trainer on Principals for Educating Adults**

***Saturday 2/25 & Sunday 2/26 9 AM-5 PM***

Presenters: Brett Dillon, IBS Advisors and Kristof Irwin, Positive Energy

Room: Trinity B

Using evidence-based guidelines developed through years of experience and research, this session covers the psychological processes of learning, the learning cycle, near and far knowledge transfer, the different views of learning, different types of training, how to select trainers, using an integrated teaching process, how to structure learning events based on student abilities, principles of instruction, how to analyze a job in order to teach it, how to design a learning experience to maximize knowledge gain, causes of failure, how to manage working memory in adult learners, how to build expertise in a short period of time, and how to design and deliver dynamic presentations. This training will meet the RESNET requirement for Rater Trainers to have training on educating adults.

Pre-registration is required through [http://www.ibsadvisorsllc.com/education/train\\_trainer.php](http://www.ibsadvisorsllc.com/education/train_trainer.php)

Cost: \$800

### **Thermal Imaging (Offsite Training Opportunity at Courtyard Marriott Austin)**

***Saturday 2/25 & Sunday 2/26***

Are you an Energy Auditor or Home Inspector looking to expand into the Thermal Imaging Business? Join United Infrared for a two day class which will help you incorporate Thermal Imaging into your business and help you know how to inspect the building envelope of a home via infrared technology. As part of the course, we will be doing hands on training at a home and performing blower door testing as part of our survey. Join us Feb 25-26th in Austin, TX.

To see more about the course offering, please view: [www.energyscanir.com/training](http://www.energyscanir.com/training)

As a special offering to RESNET attendees, United Infrared would like to offer 10% off our EnergyScanIR training class AND a free 6 month membership with any registration of our upcoming class to be held in Austin, TX (This is a \$400 savings).

Pre-registration is required through [www.unitedinfrared.com/store](http://www.unitedinfrared.com/store), select EnergyScanIR module and at checkout screen use coupon code: resnet2012

Cost: \$1350

### **One Day Course**

#### **Energy Smart Contractor Training**

***Saturday February 25<sup>th</sup> 8 AM-5 PM***

Presenter: Dallas Jones, Green Training USA

Room: Sabine

#### **Topics Covered Include:**

- Basics of heat transfer concepts and air distribution leakage
- The energy consequences of common construction practices
- Basic Combustion Appliance concerns
- Basics of envelope and duct leakage, air sealing and insulation
- Understanding of thermal boundaries
- The House as a System - Basics of measure interaction, expected life and bundling for optimal performance
- RESNET retrofit work scope requirements and recommendations

**Benefits of the Course** At the end of the course, students will be ready for the RESNET Qualified Contractors Exam and be qualified to include optimal home performance measures in their existing contracting business

Pre-registration is required through <http://www.greentrainingusa.com/resnet-conference.html>

Cost: \$200

### **Half Day Short Courses**

#### **Spray Polyurethane Foam Alliance Inspector Training**

***Sunday February 26<sup>th</sup>- 8 AM-Noon***

Presenter: Roger Morrison, Deer Ridge Consulting, Inc

Room: Wedgewood

HERS Raters, in good standing with RESNET, have been offered the opportunity to become Spray Polyurethane Foam Alliance (SPFA) Accredited Independent Building Envelope Inspectors. SPFA is waiving the enrollment fee and training class cost for this program because of the relationship which SPFA and RESNET have forged and made official in a recent MOU (Method of Understanding). SPFA is looking for individuals with inspection, energy, and insulation knowledge to

shorten the learning curve on performing SPF inspections and help us meet SPF industry needs. The role of an Accredited SPFA Independent BE Inspector is to check the work of SPF Applicators to ensure that they do work which meets both Project Specifications and Manufacturer's Installation Requirements. Three field inspections must be done for each applicator looking to receive SPFA Accreditation and there is currently a shortage of inspectors. To qualify, a HERS Rater must also attend the course and pass the test for Fundamentals of Spray Polyurethane Foam for the Independent Building Envelope Inspector. This course is complimentary to HERS Raters, and RESNET membership status will be verified. Enrollment forms will be available for each person who takes the course. In addition, HERS Raters would need to submit three references of builders for whom they have conducted inspections as well as a resume or job history to complete all SPFA requirements.

Pre-registration is required through the [RESNET Conference registration system](#)

### **WaterSense Provider Training**

***Sunday February 26<sup>th</sup> - 8 AM-Noon***

Presenter: Matt Stevens, Green Zone Homes

Room: Sabine

WaterSense, a voluntary partnership program sponsored by the U.S. Environmental Protection Agency, has recently released its Single-Family New Home Specification. To earn the WaterSense label, builders must have their homes inspected and certified to meet EPA's specification criteria by an EPA licensed certification provider. EPA is teaming up with RESNET to provide WaterSense labeled new home inspection and certification training for potential licensed certification providers. This training is a requirement for QA personnel from organizations interested in certifying new homes for the WaterSense program. Have your QA personnel attend this training to learn about the WaterSense new homes program, including the inspection and certification process; satisfy the training requirement, which is the first step in EPA's approval and licensing process; and find out how simple it is for your organization to add WaterSense new home certification services to your portfolio. \*Please note this session is only for individuals that want to become WaterSense Providers.

Pre-registration is required- email [matt@greenzonehome.com](mailto:matt@greenzonehome.com) for information

Cost: \$175

### **REM/Rate Training**

***Sunday February 26<sup>th</sup> - 1-5 PM***

Presenters: Rob Salcido and Brian Christensen, Architectural Energy Corporation

Room: Wedgewood

This session will teach basic and advanced features of the REM/Rate software. Data input, reporting, analysis, exporting, importing as well as little known features will be covered.

Pre-registration is required through the [RESNET Conference Registration System](#)

### **HERS 101**

***Sunday February 26<sup>th</sup> - 1-5 PM***

Presenter: Abe Kruger, Kruger Sustainability Group

Room: Sabine

Many individuals attend the RESNET Conference to determine whether they will enter the rating industry. Many of the sessions offered in past conferences are a bit too high in jargon and assumed knowledge for persons just entering the rating industry. This session will introduce a beginner to the rating industry and provide a context for the other more advanced sessions to be offered at the conference. \*Pre-registration is required

Pre-registration is required through the [RESNET Conference Registration System](#)

## **Monday February 27, 2012**

Conference Registration

7:00 AM – Plaza Registration Desk

Continental Breakfast - Exhibits Open

7:30-8:30 AM- Rio Grande Exhibit Hall

Opening General Session

8:30- 10:00 AM- Grand Ballroom

Welcome to Austin

Larry Weiss, General Manager, Austin Energy

Welcome to 2012 RESNET Conference

RESNET Board President

RESNET Update

Steve Baden, RESNET Executive Director

Keynote Address

Jeffrey T. Mezger, President and CEO of KB Home and Chairman of the Leading Builders of America

### **Session 1**

10:30 AM- Noon

#### **LEED for Homes 2012: A Rating System Update in a Transforming Market**

Presenter: Asa Foss, USGBC

Room: Glass Oaks

Since its launch in 2008, LEED for Homes has registered over 59,000 residential units and certified over 12,000! While the housing market has staggered, the green home market has advanced exponentially. To ensure that LEED not only keeps up with the market, but remains an effective tool in transforming the built environment, all LEED Rating Systems are currently preparing for a 2012 update. Come to discuss the current residential landscape and the 2012 revision of the LEED for Homes Rating System. We'll discuss the proposed changes in rating system requirements, as well as the goals behind them. We'll also engage in active dialog about the changes and the direction of green homes and LEED.

#### **Marketing Energy Code Testing & Inspections**

Presenters: Brett Dillon, IBS Advisors and Rob Moody, Organic Think

Room: Pecos

It's one thing to know how to do the 2009 code inspections and testing- it's another thing to sell those services! Brett and Rob use their experience in marketing these services to builders and municipalities to bring you the information and techniques you need to increase your profitability and sales. If you are interested in being successful in a down housing market, this session is a must!

#### **Marketing Energy Efficiency to Homebuyers – Builder Track Session**

Presenter: C.R. Herro, Meritage Homes

Room: Sabine

In order to distill all possible future events into a coherent business strategy, it is important to understand evolving building science, code requirements, and consumer expectations. Learn from this leading builder the “who, where,

what, and why” opportunities which appear to be driving changes in building processes and business practices in the upcoming years.

### **The Truth behind the Walls**

Presenter: Peter Hopkins, United Infrared

Room: San Antonio

This training will feature how to detect the quality of insulation installation through infrared technology. The topics to be included will be: utilizing infrared for building envelope (post construction), utilizing infrared with blower door (qualitative and quantitative testing), identifying defects (insulation, duct leaks, weather stripping etc.), and various standards on insulation specifications and inspections. The presentation will be based upon 50 homes worth of images that were taken. These were post-construction (final phase and existing home) inspections done for homeowners who wished to have their homes checked for thermal breaks or insulation quality. Of the group, not a single home complied with the insulation installation requirements.

### **Make Money on Your Cell Phone**

Presenter: Wally Conway, HomePro

Room: San Marcos

According to Forrester Research, videos are 50 times more likely to receive an organic first page Google ranking than traditional text pages! And when you consider conversion, video marketing is essential for high performance profits as an energy auditor or performance contractor. Customers want to see you in action! Nothing removes their fears like seeing you doing what you do for happy people just like them. Video marketing isn't just for big budget businesses and digital geeks! It's for you, and you can do it. It's easy and it's inexpensive. Bring your smart-phone, and before this session is even over, you'll have your first video online!!

“Mobile Marketing: Putting your business in the palm of their hands”

Frustrated that everyone you see walking, driving and even eating has their face in their phone? What if what was on their phone was your website? According to Google, 1 in 3 searches for local business is done on a smart phone. And the demographic of the smart phone user is very favorable for the energy auditor and performance contractor. So, how does your website look on a smart phone? What are the must have features on your mobile website for profitable conversion? The whole world is going mobile, find out how you can be seen where your customers are looking for you! Mobile marketing makes sense and generates sustainable dollars!

### **AC Systems Best Practices: How to Evaluate and Optimize Peak Performance**

Presenters: Joe Kuonen, CLEAResult and Bill Spohn, TruTech Tools

Room: Trinity A

Using a simple three-step process, technicians can quickly evaluate, optimize and verify peak AC system performance even in less than ideal conditions. The tools used allow techs to "see the science" and better understand what corrective measures are necessary. Contractors currently using this system in a utility sponsored program are achieving better customer satisfaction, increased sales opportunities as well as compliance with the program goals and objectives.

### **Energy Disclosure Policies: How to Gain Traction**

Presenters: Richard Faesy, Energy Futures Group; Tim Kisner, Austin Energy and Caroline Keicher, IMT

Room: Trinity B

While disclosing the energy performance of buildings at the time of listing to prospective buyers makes great sense, very little progress has been made in adopting this policy approach. When buyers have full energy information on buildings, the market can work to value efficient buildings and encourage inefficient buildings to be upgraded. However, political opposition has been effective at blocking implementation of these policies. How can we get over this opposition? What has worked in the jurisdictions that have adopted energy disclosure policies? What hasn't worked? How can rating and

labeling be used to effectively convey information and encourage energy improvements? And, what can the RESNET community do to advance these policies?

This session will review disclosure policies that currently exist, review some national efforts to share experiences and resources to move others forward, and strategize on how to gain traction with these policies.

### **Measuring Air Leakage in Residential and High-Rise Buildings- in everything from a dog house to the White House**

Presenter: Colin Genge, Retrotec

Room: Wedgewood

Solve the three most common and often hidden blower door problems. Then take a look at the latest advances in air-leakage measurement methodology and hardware. See how the same equipment can be used to measure every type of building from a dog house to the White House. Faster set up, centralized automatic control and advanced computer control can perform complex tests more accurately and quickly; even measuring airchanges directly without a computer.

## **Session 2**

1:30- 3:00 PM

### **ESv3 from a Raters Perspective**

Presenter: Robby Schwarz, EnergyLogic

Room: Glass Oaks

We have moved through the transition period and have a few months under our belts under the full requirements of the ESv3 program. What went well or is going well? What problems are we seeing? How many Builders actually continued with the program and what are they saying on both sides of the equation. What ideas are there for maintaining and growing the market? Does linking with Energy Star still make sense for your company?

### **Industry Collaborations to Advance High Performance Homes- Panel Discussion**

Presenters: Steve Saunders, TexEnergy Solutions; Chris Little, BASF's Center for Building Excellence; and Doug Lewin (Moderator), South-central Partnership for Energy Efficiency as a Resource (SPEER) and Good Company Associates

Room: Nueces

Energy efficiency industry stakeholders share many common frustrations about the low market penetration of high performance homes even though there is clearly "low hanging fruit" available for saving money and energy. In order to accelerate the adoption of advanced building systems and high performance products and services, industry must collaborate together and with the public sector to share best practices, coordinate messaging, and help make it easy for customers to make good choices to save energy. This facilitated panel discussion will touch on a variety of issues affecting home performance while exploring how cooperation can break down the silos holding back today's market to greatly increase the market penetration of energy efficient solutions.

### **Overdue Recognition for Attic Rats and Crack Fillers. RESNET's New Energy Retrofit Certificates**

Presenters: Brett Dillon, IBS Advisors and Rob Moody, Organic Think

Room: Pecos

An introduction to the new RESNET installer and crew leader credentials and how they fit into the DOE Retrofit Guidelines. Explore an illustration of the now-complete home energy career lattice that is possible with RESNET certificates and credentials.

### **The Need for a Market Based National Label for Home Energy Performance – Builder Track Session**

Presenters: Jacob Atalla, KB Homes and David Kaiserman, Lennar

Moderator: Steve Baden, RESNET

Room: Sabine

Currently there is no national label that expresses the energy performance of a home. Even with the RESNET HERS Index are a variety of ways builders are presenting the information to consumers. This misses the opportunity to present a standard “miles per gallon” label for all homes. Lead by representatives of the housing industry RESNET is developing an ANSI standard for the labeling the energy performance of a home. This session will present builder’s perspective of the need for a standardized label and the efforts that RESNET is taking to meet the need.

### **Energy Codes- IECC 2009 and 2012- What are the big changes?**

Presenter: Mike Barcik, Southface

Room: San Antonio

The latest national energy codes have significant impacts on HERS Raters. Testing envelopes and ducts becomes more crucial as the codes now mandate these requirements. Understand the major differences in the newest 2012 version – learn what got more stringent as this version strives to be 30% better than the 2006 code (the current HERS reference home). Finally, discover opportunities to get involved and make money for your organization in the code compliance world. Experience an informed, technical update from Southface’s Mike Barcik, a seasoned energy code advocate with over 16 years of experience with adoption and enforcement of energy codes.

### **Efficient New Homes in Young Markets in Changing Times**

Presenter: Kathleen Greely, PSD Consulting

Room: San Marcos

Energy-efficient new homes programs face many challenges in young, undeveloped markets during the current new construction downturn. And now ENERGY STAR for Homes is changing, adding new hurdles for builders and raters to surmount. By drawing on the experience gained through a Mid-Atlantic electric utility new homes program, this session will focus on performance-based incentive design that creates a low barrier to entry, yet encourages builders to reach deeper levels of efficiency. By incenting but not requiring ENERGY STAR, programs can continue to collect energy savings as builders work through the ES 3.0 transition, while creating an ENERGY STAR-friendly economic environment. In addition, this session will look at problems unique to a young marketplace, including:

- Creating raters and interested builders simultaneously (not one before the other),
- Helping raters learn not just technical skills but also sales techniques,
- How appropriate QA can help new raters and builders climb the learning curve, and
- Why recent code changes can help promote ratings to builders.

Further techniques for making new homes programs more efficient will be examined, including the pivotal role of software in managing performance-based incentive approaches. Results from the program’s first year, including builders’ strategies for managing the ENERGY STAR transition, will be discussed.

### **Energy Improvement On Bill Financing for Rural Electric Cooperatives - A Time That Has Come**

Presenter: Brian Cavey, National Rural Electric Cooperative

Room: Trinity A

There has been legislation introduced in Congress that would have the U.S. Department of Agriculture provide no interest financing to rural electric cooperatives to provide low interest financing of energy improvements to member homes which would be repaid through the electric bill. The legislation would require an pre and post energy audit by a certified professional. This session would introduce the legislation and explore the implications to the building performance industry and how members of industry can become involved in advocating passage of the legislation

### **Designing for Dewpoint**

Presenters: Dennis Stroer, Calc-Plus and Kristof Irwin, Positive Energy Building Science Consulting

Room: Trinity B

Designing for dewpoint conditions in the hot, humid South is a necessity, not a luxury! Learn how improper HVAC design can have a huge impact on comfort and durability when dewpoint is neglected and how simple techniques can be used

to avoid a terrible mess to begin with. Raters, you can be the hero that saves the day by learning how to help HVAC contractors and builders avoid disaster- and when they don't, you can rescue the homeowner!

### **Working through ASHRAE 62.2**

Presenter: Paul H. Raymer, Heyoka Solutions  
Room: Wedgewood

Like everything else in building science, there's a lot more to residential ventilation than just opening the window. As houses get tighter, the need for mechanical ventilation to insure indoor air quality increases and the interaction with other air hungry equipment like combustion equipment becomes more critical. Recognizing these converging issues, building codes are increasing their mandate to require and scrutinize effective, mechanical ventilation systems in both new and existing homes. This session concentrates on applying the latest version of the ASHRAE 62.2 Standard through ventilation fundamentals, system design, selection, and operating costs, to compliance with the codes. The Standard has a multitude of parts including sizing, installed system performance, and documentation among other steps. It will describe taking advantage of the infiltration credit or conditions in existing homes in the clearest and simplest way.

### **Session 3**

3:30- 5:00 PM

### **DOE's Builders Challenge: Recognition for America's Leading Edge Builders – Builder Track Session**

Presenter: Sam Rashkin, DOE  
Room: Glass Oaks

Building codes are rapidly increasing in rigor, and ENERGY STAR Version 3 is moving towards a comprehensive building science threshold. That's all good for helping mainstream builders incrementally improve their homes. But there are opportunities to work with leading edge builders who recognize best building science practices can take new home performance to an entirely new level of excellence. Moreover, these builders understand there is a growing demand for homes built significantly better than minimum code and that these homes also help minimize risk of call-backs while increasing customer satisfaction. DOE is working with EPA to promote a label for these builders called Builders Challenge that is fully coordinated with ENERGY STAR for Homes. Attendees will learn what package of measures consistently deliver a home that exceeds 2009 IECC by 50 percent, how Builders Challenge packages these measures into an important new label, and what is the business case for offering homes at this performance level.

### **What's New in 2012 IECC and an Update on the U.S. Department of Energy (DOE) Code Development Activities**

Presenters: Pam Cole, Pacific Northwest National Laboratory and Jeremy Williams, U.S. Department of Energy  
Room: Nueces

This session will provide an overview of the new residential requirements in the 2012 International Energy Conservation Code. DOE will also be discussing current residential code development activities, including creation of a standardized economic analysis methodology, initial concepts for 2015 IECC code change proposals, and DOE's open process for code development and analysis.

### **Making the Grade: Insulation Installation**

Presenters: Charles Cottrell, NAIMA and Brett Dillon, IBS Advisors  
Room: Pecos

This session covers the requirements of the RESNET Standards governing insulation installation grading. From fiberglass to cellulose, spray foam to blown-in-blankets, these requirements are critical to determining proper installation and appropriate descriptions in the software. Learn what is a defect and what isn't- and how to communicate failures and successes to the insulation contractor.

### **What's Going On - Legislation to Provide Financing for Improving Building Energy Performance**

Presenter: Carl Chidlow, Cardenas Partners

Room: Sabine

One of the greatest draw backs to improving the energy performance of buildings in the U.S. is the lack of affordable and sustainable financing. There have been a number of bills introduced in Congress to address this including the SAVE Act, a performance based tax credit for homeowners to improve their homes energy efficiency and low interest on bill financing for members of a rural electric cooperative.

This session will explore the bills aimed at giving consumers access to affordable financing and will discuss how the building performance industry can make its voice heard in Congress on these key issues.

### **Decoding Thermal and Ignition Barrier Requirements for Spray Polyurethane Foam**

Presenter: Rick Duncan, SPFA

Room: San Antonio

Because of its unique insulating and air-sealing properties, spray polyurethane foam (SPF) is undergoing a rapid increase in residential applications in both new construction and energy retrofit applications. Since SPF and other foam plastic materials are combustible, the model building code requires certain 15-minute thermal barriers and/or ignition barriers be used over foam plastics to separate them from the interior space. The model building code is complex. This presentation defines these fire protection requirements in simple terms, including how coverings, coatings and assemblies are tested, where they are required, and what alternatives are permitted.

### **Advanced Thermography Investigations**

Presenter: Jay Bowen, Infrared Training Center

Room: San Marcos

Applying infrared cameras has opportunities and advantages to the diagnosis of building or related applications. Beyond the basic operation of the camera, applying this science in the real world has many avenues for investigation techniques. We will review the understanding of standards and the implications of the applications. We will answer your questions about IR cameras, building science, and applications with an emphasis on energy efficiency and a cost effective approach to building inspections.

### **NATE's new HVAC Performance Verification Certification and You**

Presenters: Warren Lupson, NATE

Room: Trinity A

NATE is currently developing, in conjunction with RESNET and ACCA an exciting new certification especially designed to validate the competencies of HERS Raters in performance verification. This certification will be administered by NATE and be incorporated into the family of NATE specialty certifications. Successful passage of the certification will allow Raters to distinguish themselves as having NATE recognition and identification in this specialty. Learn how this new certification will elevate acknowledgement of your expertise in the marketplace and symbolize your professionalism through both RESNET and NATE.

### **COMNET Commercial Buildings Energy Modeling Guidelines and Procedures**

Presenter: Charles Eley, FAIA, PE

Room: Trinity B

This presentation will address the COMNET (Commercial Energy Services Network) quality assurance program. The purpose of this program is to improve confidence and reliability of building energy performance calculations used for green building ratings, tax incentives and energy labels. RESNET is a partner in the COMNET organization. The QA program includes:

- Process for accreditation of software that implements:
  - A detailed specification for energy analysis software (the MGP).
  - Automation of baseline building generation (required by the MGP).
  - Control of neutral variables (required by the MGP).

- Generation of standard output reports (required by the MGP).
- Continued review and QA of accredited software.
- Updates and enhancements to the MGP along with requirements for re-accreditation
- Development and maintenance of the COMNET portal through which all COMNET accredited energy analysis would pass. The portal QA component would:
  - Make basic and automated quality assurance checks for every COMNET energy analysis that passes through the portal.
  - Select certain COMNET energy analyses for detailed QA checks by qualified engineer. The sampling size and procedure would be modified to suit the desired level of confidence and budget of the rating authority using the data.
- Official interpretations on how the MGP specification applies (these are numbered and cataloged on the COMNET website).
- Periodic internal quality audits to identify the extent to which the COMNET documented procedures are followed and the effectiveness of current processes, per ISO 9000.
- Credentialing and/or training of energy modelers who participate in the COMNET QA process.

### **3 Essential Components of a Successful Green Business**

Presenters: Mike Collignon and Ron Jones, Green Builder Coalition

Room: Wedgewood

While the economic downturn has hit the construction industry hard, there have been companies who have figured out a way to not only survive, but grow. In this presentation, we'll address 3 components of a successful green business, and show how any blossoming builder or contractor can move in a greener, more successful direction.

Component 1: Knowledge, or the Ability to Obtain It

Component 2: Common Sense

Component 3: Basic Math

Join Mike Collignon and Ron Jones, co-founders of the Green Builder Coalition, for this lighthearted yet informative presentation.

### **Special Evening Session 6:30-8:00 PM**

#### **Performance Based Tax Credit for Improving the Energy Performance of Existing Homes – A Town Hall Meeting**

Presenters: Representatives of RESNET, Efficiency First and BPI

Room: Wedgewood

On November 81, 2011, Senators Olympia Snowe (R-ME), Jeff Bingaman (D-NM), and Diane Feinstein (D-CA) introduced the "Cut Energy Bills at Home Act". This bill creates a new performance-based existing homes tax credit (25E). The Cut Energy Bills at Home Act provides a \$2,000 credit for home energy efficiency retrofits to the homeowner for a 20% improvement in home energy efficiency. For every additional 5% improvement, the homeowner is eligible for an extra \$500, up to \$5000.

Come join RESNET, Efficiency First and BPI in a town hall meeting to discuss the proposed legislation. There will be short presentations on the provisions of the legislation and the certification programs recognized to conduct the work scope development and complete the work. This will be followed by an extensive question and answer period.

### **Tuesday February 28, 2012**

#### **PHIUS+ Rater Training for Passive House Quality Assurance**

**Tuesday 2/28 8 AM-5 PM and Wednesday 2/29 8 AM-3PM**

Presenters: John Semmelhack + Ryan Abendroth, Passive House Institute U.S. (PHIUS)

Room: Colorado

This two-day course will prepare experienced HERS Raters to provide quality assurance services and HERS ratings to project teams participating in the PHIUS+ certification program for Passive Houses in North America. Day one will be in

the classroom, focusing on Passive House principles along with on site protocols for PHIUS+ certification. During day two we will apply the testing and inspection protocols in actual Passive Houses under construction around Austin.

#### Highlights

- Learn General Passive House Principles
- Learn Strategies for using Rem/Rate for Passive House Projects
- Introduction to PHIUS+ Certification and Database
- Review On-site testing procedures including:
  - Building Envelope
  - Shading
  - Heating and Cooling
  - Ventilation
  - Lighting and Appliances
  - Hot Water
  - Renewable Systems
- Site Visits and Hands-on Coursework at built Passive Houses in Austin (Wednesday 2/29 8 AM-3PM)

Registration is limited to 10 student so register today! Application and pre-registration is required through

<http://www.passivehouse.us/passiveHouse/PHIUSPlusRaterTraining2012Resnet.html>

Cost: \$300

#### **Session 4**

8:30-10:00 AM

#### **ENERGY STAR in 2012: the Team, the Spec, and the Value Proposition – ENERGY STAR Track Session**

Presenters: Dean Gamble and Jon Passe, US Environmental Protection Agency, ENERGY STAR for Homes Team

Room: Glass Oaks

The past year has been a time of great change for EPA's ENERGY STAR program and its partners, positioning us for great things in 2012 and beyond. This session will kick off the ENERGY STAR track, and highlight how ENERGY STAR's new guidelines address every builder's bottom line business objectives: how to increase sales, profit, and customer satisfaction while reducing risk and minimizing callbacks. EPA will explain the rationale behind the major changes to the guidelines and how you can incorporate these features into compelling messages for your homebuyers. The session will also address how you can differentiate yourself by marketing ENERGY STAR and the HERS Index together for a powerful and compelling message.

#### **How Drain Water Heat Recovery is incorporated in ENERGY STAR V3**

Presenter: Rod Buchalter, RenewABILITY Energy Inc.

Room: Nueces

The session will include the basic principles of Drain Water Heat Recovery (DWHR) for residential applications. It will also show how DWHR can reduce total home energy consumption by 5-10% which will include the installation /sizing of units.

The success of its application for Energy Star builders in Ontario, Canada will be reviewed. Attendees will learn how DWHR can be incorporated in US Energy Star version 3.

#### **Manual J Verification**

Presenters: Brett Dillon, IBS Advisors; Wes Davis, ACCA; and Dennis Stroer, Calcs-Plus

Room: Pecos

Using tools provided by ACCA, this session covers how Raters can verify HVAC load calculations using a standardized method. We teach Raters how to communicate with HVAC contractors while enforcing the requirements in the code and federal programs. They can be your biggest ally or your worst enemy- the choice is yours!

### **Using the RESNET HERS Index Attract Buyers – Builder Track Session**

Presenters: Jacob Atalla, KB; Jim Peterson, Pulte Homes; Orlo Stitt, Stitt Energy Systems and Mike Funk, David Weekly Homes

Room: Sabine

Lead by the leading builders of the nation there is a growing trend where builders are committing to marketing their homes' HERS Index to prospective buyers. This session will feature a "view from the street" of how builders are using this to attract new buyers. The presenters will represent a representation of production and custom builders and national builders as well as local builders. Each of the builders will explain how they incorporated the home's HERS Index in their marketing and consumer reaction.

### **Meeting 90% Code Compliance with HERS Raters**

Presenters: Richard Faesy, Energy Futures Group; John Umphress, Austin Energy and Mike Barcik, Southface

Room: San Antonio

As states attempt to measure their code compliance rates and struggle to come up with plans that will achieve 90% compliance per ARRA requirements, they are beginning to see the challenges with traditional code enforcement models. BCAP has completed a code compliance and enforcement gap analysis for 15 states that addresses some of these issues. Other states, like New York and Vermont are completing studies that present new models of code compliance. All of these efforts look at a new paradigm in energy code compliance that recommend third party code inspectors. This session examines some of these studies and models and presents the opportunities HERS Raters will have to fill these new roles.

### **How RESNET Raters Can Work Effectively with NARI Members**

Presenter: Paul J. Zuch, National Association of the Remodeling Industry (NARI)

Room: San Marcos

The new strategic alliance between RESNET and NARI provides the opportunity to expand business opportunities as well as to increase knowledge and networking between both memberships. This session can expose NARI so that RESNET members have a better understanding of who NARI members are and what they do. This is a unique opportunity to learn how to position your business in the retrofit market.

### **High Performance Wall Systems: How to Achieve the Best Results on a Budget**

Presenters: Randy Straight and Kyle Crompton, CertainTeed

Room: Trinity A

This course offers a review of Good, Better, Best High Performance Wall Systems through a "systems based approach" to walls. Attics and crawlspaces will also be reviewed in this fact filled presentation that includes 2012 codes, greener products, moisture considerations in walls (Hygrothermal analysis) and their affect on Indoor Air Quality.

### **Train the Trainer Sales Session – Learn the Skills to Help Your Builder Sell ENERGY STAR to Homebuyers – EEBA Track Session**

Presenter: Gord Cooke, Building Knowledge

Room: Trinity B

The goal of this session is to empower you to help new home builders sell the value propositions the energy efficiency programs you deliver offer. This session has been adapted specifically for raters from the EEBA Houses That Work Sales Training session, delivered directly to new home sales agents. In this session you will develop a sales training plan outline that you can use to engage sales managers and the sales staff of new home builders to ensure more frequent

opportunities for education sessions that will build commitment, enthusiasm and greater consistency in the message. The session will include identification of the 3 most common sales processes used by new home sales agents and how you can help them integrate the energy efficiency message into each one. Come learn the top 4 questions you should be asking each of your builders and the top 3 questions new home sales should be asking when speaking with homebuyers to ensure the success of the services and programs you offer. The presenter for this session has helped hundreds of new home sales agents effectively integrate energy efficiency messages into their sales process.

### **How Are You Going To Manage All That Paperwork? Practical Software Solutions**

Presenters: Daran Wastchak, DR Wastchak, Robert Burns, Pivotal Energy Solutions, and Steve Byers, EnergyLogic  
Room: Wedgewood

As the home energy ratings business gets more and more complex, so does the necessity to manage all the documentation that is required by RESNET, EPA and other Energy Efficiency Programs (EEP's). This session will demonstrate some of the software tools that have been created to assist home energy rating Providers and Raters with the daunting task of managing this complexity. Software capabilities include managing RESNET quality assurance, submitting of homes to the new RESNET Rating Registry, assisting with the mind twisting requirements of scheduling and keeping track of tests and inspections for sampled homes, and keeping track of the significant number of checklists and documents that EPA now requires for the new ENERGY STAR version 3.0 program. The best software solution is one that reduces stress and increases profitability. Come learn how.

### **Session 5**

10:30 AM- Noon

### **Home Energy Rater Essentials for Version 3 – ENERGY STAR Track Session**

Presenters: Jennifer James and Jake Titus, ICF International, in support of EPA  
Room: Glass Oaks

Builders need – and expect – a lot more from Home Energy Raters under Version 3. Successful Raters effectively sell the value of the ENERGY STAR program and help their builders get up to speed smoothly. This session for new and prospective Raters will focus on the basics of Version 3: what the guidelines cover, how they help builders be more competitive, and how new builders can get started. Raters will leave this session better able to explain the guidelines and help new builder join ENERGY STAR and build qualified homes.

### **RESNET Raters and Spray Foam Contractors – Partners in Home Performance**

Presenter: Paul Duffy, Icynene  
Room: Nueces

Raters long ago recognized the importance of spray foam in solving difficult building envelope detailing issues. Increasingly foam is being used to guarantee performance. With aggressive air tightness levels required in the 2012 I-Codes, builders are under the gun to ensure homes will pass that all-important air-tightness test. This session is going to outline how raters can partner with spray foam contractors to design details/assemblies that pass the air tightness test early in the construction cycle to minimize risks for all involved. This is opening new business opportunities for raters and insulation contractors alike.

### **Multifamily Buildings: Labeling and Energy Efficiency Beyond Residential Spaces**

Presenters: David Ruggiero and Michael Flatt, ICF International, Ted Leopkey, EPA and Gayathri Vijayakumar, Steven Winter Associates  
Room: Pecos

A review of two existing multifamily whole-building energy efficiency programs - one in Massachusetts and one in Texas - will look at the unique energy saving profiles and opportunities of both residential and common area spaces within multifamily buildings. This session will cover how raters and energy efficiency program administrators can increase

business and energy saving opportunities when servicing a multifamily project. Low-rise and mid-rise buildings will be addressed as will the ENERGY STAR Policy for Attached Housing and the new EPA Multifamily High-rise standard.

### **The SAVE Act - Mainstreaming Building Performance into the Mortgage and Appraisal Industry – Builder Track Session**

Presenters: Robert Sahadi, IMT and Ken Gear, Leading Builders of America

Room: Sabine

A broad coalition of home builders, environmental and energy groups and RESNET is advocating for the proposed legislation the "Sensible Accounting to Value Energy Act (SAVE Act). The legislation would modify the guidelines for mortgage underwriting by allowing for a value-added adjustment based on a home's energy features. This session will introduce the provisions of the SAVE Act and explore the implications to the builders and the building performance industry.

### **ACCA's New ANSI Existing Home Evaluation and Performance Improvement Standard – What It Means to Certified RESNET Raters and Energy Smart Contractors**

Presenter: Wes Davis, ACCA

Room: San Antonio

The Air Conditioning Contractors of America (ACCA) is in the final process of adopting an ANSI standard on Existing Home Evaluation and Performance Improvement. The standard is built on the foundation of the RESNET Standard's Chapter 7 and 8 and was drafted with the participation of the RESNET Energy Smart Contractor Standard Task Force. This standard will be the first ACCA standard addressing energy audits and retrofits. This session will provide an overview of the new standard and explore its implications for the retrofit industry and RESNET professionals.

### **Making Data Easier**

Presenters: Greg Thomas, PSD Consulting and Robin LeBaron, National Home Performance Council

Room: San Marcos

The whole-house upgrade industry continues to face challenges related to data collection, transfer and analysis. These issues have recently been addressed by three standards currently under development (and anticipated to be completed by the time of the RESNET conference). The first two standards seek to make data collection more standardized, and to develop a common protocol for data transfer via XML (HPXML). The third standard details procedures for making energy modeling more accurate by calibrating modeled pre-upgrade energy consumption with actual pre-upgrade energy consumption, as indicated by utility or fuel bills. The third standard also provides an optional procedure for adjusting the modeling process to reflect standard operating conditions, as opposed to the characteristics of the current occupant(s). Together, these three standards have the capacity to improve the efficiency of the whole-house upgrade industry, and, more specifically, to make the work of raters and contractors easier and more accurate. The third standard also has significant public policy implications, in that it can serve as a referent in subsidy or tax credit programs designed to promote whole-house energy efficiency upgrades. This panel will provide an overview of these standards, describe their significance for practitioners, and explore potential policy implications.

### **Using Infrared Thermography All Year Long**

Presenter: Matt Schwoegler, The Snell Group

Room: Trinity A

Thermography is widely used for building diagnostic work but too often it is used mainly in the winter. The latest technology is powerful enough that it can be used nearly all year long in most parts of the country. What is required is a clear understanding of the thermal conditions and influences in and around the building as well as mastery of the thermal imaging system itself. The presentation will also discuss particular difficulties that may be encountered in both the swing seasons (spring and fall) as well as the summer season and solutions for getting good results when situations are challenging. The presentation is 100% neutral with regard to any brand of imager and will also tie into the new RESNET standard where relevant.

The proposed presenter has extensive training and experience both using the technology as well as making presentations to groups who want to learn more about it.

### **Introduction to High Performance Homes and IAQ – The Implications of the EPA Indoor Plus Program – EEBA Track Session**

Presenter: Gord Cooke, Building Knowledge

Room: Trinity B

This session will teach participants essential information about indoor air quality as it applies to high performance homes. You will learn the four important strategies for controlling and improving indoor air quality. The session is based on the popular EEBA Houses That Work Indoor Air Quality program that was developed to highlight the key elements of EPA's Indoor airPLUS air quality home-labeling program and how it relates to Version 3 of the ENERGY STAR for New Homes program. This knowledge will empower raters to sort through the quagmire of IAQ information that is currently available to help their builders and homeowners make better decisions.

### **The Revision of RESNET's Rater Training Standards – RESNET Rater Trainer Roundtable**

Presenters: Mark Jansen, Chair of the RESNET Training and Education Committee and Darrel Tenter, Saturn Resource Management

Moderator: Kathy Spigarelli, RESNET

Room: Wedgewood

The RESNET national standards on rater training were in need of a major revision. The skills set and knowledge base have not been modified since they were first adopted in 1998 even though the RESNET rating standards have undergone significant revisions. The skills set and knowledge base is what RESNET accredited rater training providers must base their rater training curriculum on. In 2011 the RESNET Training and Education Committee will be introducing an amendment to the RESNET standards to incorporate the needed changes. This session will explore the changes that are being made and count for the annually required roundtable for RESNET Rater Trainers.

### **CertainTeed Workshop**

Location: Outside the Plaza Foyer

Training will explain the Following:

- The Value & Benefit of the Hybrid Wall.
- The Benefits of Air Sealing
- The Variance and Benefits of Open & Closed Foam Insulation.
- The Benefit of using Forticel and the "4" levels of protection.

### **Session 6**

1:30- 3:00 PM

### **Program Panel: ENERGY STAR Version 3 Builder Leaders - ENERGY STAR Track Session**

Panelists: Jacob Atalla, KB Home; Kreg Connor, Centex-Pulte, Central Texas; CR Herro, Meritage Homes; Travis Pate, Texas Classic Homes; Bill Stegall/Keith Anderson, NVR

Moderator: Ga-Young Choi, US Environmental Protection Agency, ENERGY STAR for Homes Team

Room: Glass Oaks

Many builders have made a public commitment to qualifying their homes under Version 3. This session, facilitated by EPA, will feature several builders who have committed to ENERGY STAR in 2012. Presenters will discuss their rationale for staying with the program and how they successfully transitioned to the new ENERGY STAR guidelines.

### **Seeing Beyond the Glare of EcoBling- Sensible Leadership in Green Building**

Presenter: Peter Pfeiffer, Barley & Pfeiffer Architects

Room: Nueces

The green building movement is here to stay – as well it should be to right a ship that has gone off course for the past quarter-century or more. However, we need to take a step back and so we can try to see the forest through the trees – look at the big picture. The green building movement has devolved into a checklist approach to integrating green building products into our buildings. What we really need is a sensible and integrated approach to building design and construction.

The very necessary leadership role of the “Inspired Generalist” is needed now more than ever in the US building industry – otherwise our buildings may simply become a collection of poorly coordinated “green” features whose sum doesn’t equal the investment in the parts.

The complexity of how various design decisions and building components interact with each other to effect human health & comfort; building durability & maintenance; conservation of natural resources; waste management; water conservation; energy efficiency and its relatedness to US energy independence and global warming will be addressed in an enlightening format that is timely, relevant, and inspiring

### **RESNET Energy Modeling: Not Just for Breakfast Anymore.**

Presenter: Rob Moody, Organic Think and Brett Dillon, IBS Advisors

Room: Pecos

Walk through actual examples of projects that use REM/Rate's built-in tools for retrofit valuation and estimated impacts on energy bills. Learn how to glean critical information from modeling software reports and weird situations seen in the field. Tricks on inputs and how to communicate with homeowners.

### **Internet Marketing 101 for Home Performance Raters, Auditors and Contractors**

Presenters: Peter Troast, Energy Circle and Allison A Bailes III, PhD, Energy Vanguard

Room: Sabine

As the web increasingly replaces traditional forms of marketing, the energy efficiency contracting community faces the challenge--and opportunity--of understanding this complex and ever changing landscape. This workshop, aimed at those just starting to understand internet marketing, will cover the bases from managing your primary company web presence, understanding search engine optimization, the keyword landscape in our field, the rapidly evolving local search landscape, social media opportunities such as blogging, Facebook, Twitter and Google+, as well as paid options--lead generation services, pay per click advertising, and more.

### **“Don't Do What I did Did” - Critical Paths to Business Success**

Presenter: Steve Byers, EnergyLogic

Room: San Antonio

What are the most critical path items that will determine your business success or failure as a HERS Rater? Particularly addressed to start ups and young companies.

### **The Changing Role of a Rater**

Presenter: Daran Wastchak, DR Wastchak

Room: San Marcos

The entire EEP argument goes directly to the issue of the expanding role and responsibility of RESNET and our Providers/Raters. We have far outgrown just doing ratings and, it could be argued, never really were ever just “Raters”. We are project managers, trainers, salesman, confirmers of quality assurance, consultants and technical experts in fields ranging from home energy ratings to HVAC to water drainage management of buildings to everything the “green” world can come-up with. This is the new vision for RESNET that we are embracing and trying to capitalize on.

### **Art of Building Science- Moisture Flow**

Presenters: Lucas Hamilton and Kyle Crompton, CertainTeed

Room: Trinity A

This course gives an overview of excess moisture flow problems and solutions in each of six areas of the house system.

### **Advancing the IAQ Conversation – Cost-effective solutions – EEBA Track Session**

Presenter: Gord Cooke, Building Knowledge

Room: Trinity B

This session will build on the information presented in the IAQ Introductory session to focus on the practical and affordable tools and strategies they can use to help their clients make better decisions and to incorporate healthy indoor initiatives into their building projects. Participants will leave the session equipped to avoid potential risks and identify new opportunities for building and remodeling homes to simultaneously improve energy efficiency and indoor air quality. The session will include advice on how to market and sell air quality services from the presenter who has done hundreds of effective and profitable indoor air quality investigations.

### **Energy Efficient Mortgages - New and Existing Homes - How to help Finance Energy Efficiency Improvements**

Presenters: Walter Cuculic, Green Your Home Consulting and Stuart Williams, Mortgage Lender

Room: Wedgewood

This session will cover how HERS Raters can work with Lenders and Builders to offer Homeowners and Homebuyers both Fannie Mae and FHA Energy Efficient Mortgages. These products are both for new and existing homes. FHA Energy Efficient Mortgages can help builders and homebuyers with both appraisal challenges and can help increase borrowing power based on the net energy saving from energy efficiency and renewable energy improvements. Energy Efficient Mortgages can be an excellent tool for HERS raters to provide additional value to builders and homeowners.

### **Session 7**

3:30- 5:00 PM

### **Getting the Home Envelope Right: The ENERGY STAR Thermal Enclosure and Water Management Checklists – ENERGY STAR Track Session**

Presenters: Rick Gazica and Charlie Haack, ICF International, in support of EPA

Room: Glass Oaks

This session from EPA will highlight the most intricate details within the Thermal Enclosure System Rater Checklist as well as the Water Management System Builder Checklist. Builders and Raters who are already familiar with the Checklists will better understand the value of these specific requirements as well as options for complying with them.

### **Low Cost Ducts in Conditioned Space**

Presenter: Ken Fonorow, Florida H.E.R.O

Room: Nueces

By attending this session, participants will

- Learn how the tradition of installing duct systems in attics came to be and the impact that it has on a home's performance.
- Review several strategies for ducts in conditioned space – what worked...what didn't and why. Learn a specific strategy which decreases cost while enhancing system performance.
- Become acquainted with design issues and how to integrate the duct system in a manner that enhances the architectural interest of the home.

### **A Summary of Fifty Years of Radiant Barrier Research**

Presenters: Mario A Medina, University of Kansas and Bill Lippy, Fi-Foil

Room: Pecos

Attic Radiant Barriers (RBs) is a proven technology that significantly reduces the flow of radiant heat across attic spaces, which in turn lowers the heat flow across the ceilings of buildings, ultimately lowering space cooling and heating loads,

which produces energy and cost savings. Results of fifty years of radiant barrier research are summarized in this paper. The reviewed data indicate that, on average, RBs reduce summer ceiling heat flows by 23 to 45% depending on the insulation level, whereas winter ceiling heat flow reductions are about 40% of the summer values for the same insulation levels. Similarly, the data indicate that RBs reduce space cooling loads by approximately 6 to 20% and that space heating loads reductions are also about 40% of the space cooling load values for the same insulation levels. Fundamental issues, such as, reduced ceiling heat flows, reduced space cooling and heating loads, and changes in attic temperatures produced by the installation of RBs in residential attics are highlighted. Causes that affect RB performance, such as the influence of attic insulation level and climate, are also presented.

### **Overcoming Valuation Barriers and the Stakeholder Solution to Market Transformation**

Presenters: Lee Ball, PhD at Appalachian State University; Chuck Perry, Nicholas Hurst, and Victoria Bloise North Carolina Energy Efficiency Alliance

Room: Sabine

The content for this session is partially based on a recently published doctoral dissertation which assessed the green building education needs of North Carolina's real estate appraisal industry. This study incorporated appraiser surveys, extensive appraiser interviews, and appraisal case studies. A snapshot of the study's results which generated numerous recommendations for the building industry will be highlighted. Additional content of this session is based on the research and outreach work of the North Carolina Energy Efficiency Alliance (NCEEA). This session will identify the barriers within the construction industry that are prohibiting mass market growth of energy efficiency and will serve to explore the solution. Their research has concluded that the support of lenders, appraisers, utility providers, REALTORS, home builders and the home energy rater is needed in order to drive the construction and sale of energy efficient homes. This session will also showcase how each of these stakeholders can be part of the solution and demonstrate how to "reel in" the ultimate stakeholder, the consumer. Hear an update on key NCEEA educational efforts with realtors, lenders, and appraisers to achieve market transformation. Speakers will present learning outcomes and lessons learned based on follow up educational programs. The information provided by this session is important for anyone hoping to see increases in the market penetration of energy efficient homes.

### **How much is the Air Infiltration? -Field and Lab Results for Three Different Scenarios**

Presenter: Linda Jeng, Dow Building Solutions

Room: San Antonio

Air infiltration is widely regarded as one of the largest sources of energy loss in residential constructions. How to choose a wall or building assembly with minimum air infiltration plays a vital role for a particular home to achieve ENERGY STAR program requirements, or meeting the energy code requirements using the performance approach.

This presentation will review three different scenarios of field and lab test results of air infiltration values. The first scenario is a field test with 15 different homes to check how to improve air infiltration performance of a home and how the improvement impacts home HERS ratings. The second scenario is a large-scale lab test to show how different wall assemblies perform in a large-scale lab conditions. The third scenario is a test hut with 8'x8' room showing the measured air infiltration difference for the whole hut with different wall and roof components.

After this presentation, raters should be able to identify the correct way to minimize air infiltration for a wall assembly or building enclosure in general. Raters will also gain knowledge about what is the best way to reduce air infiltration, improve home HERS rating and energy performance with minimum costs.

### **Build a Successful Home Performance Team**

Presenter: Wally Conway, HomePro

Room: San Marcos

RESNET EnergySmart Home Performance Teams are the new way of working with homeowners to achieve maximum energy efficiency. Raters/Auditors and EnergySmart Contractors work together to ensure energy efficient installations and upgrades. Each team member promotes the team's services for mutual benefit and to better serve the homeowner. In this session you will learn:

- Home Performance Teams: What they are and how they work

- Which professionals make up a Home Performance Team
- How to build a Home Performance Team
- How to market your Home Performance Team

Join us for this informative session and learn how working in a Home Performance Team can benefit both your business and homeowners.

### **Rebates and Incentives - WTF (Weatherization through Funding)**

Presenter: Lee Guthman and Lynton Karfor, GreenOhm

Room: Trinity A

We would like to present on the state of the residential rebates and incentives programs in the US. The presentation would give an overview of how different states, utilities, municipalities, counties and other programs are funding energy efficiency upgrades for homeowners throughout the US, the differences in program structures, outcomes and the future of such programs. In addition, we will highlight the benefits of rebate and incentive programs for contractors, ways in which to take advantage of free funding opportunities to either up sell the consumer and/or maintain margins and the process to become an approved auditor/rater/contractor.

### **Mechanical Ventilation – The Right Options for the Right Climate Zone to Optimize ENERGY STAR V3 – EEBA Track Session**

Presenter: Gord Cooke, Building Knowledge

Room: Trinity B

Wondering what's the best ventilation system - exhaust only, fresh air duct into air handler, ERV or HRV for your builders? Want to really understand when to use an HRV or ERV? This session presenter has been designing ventilation systems for over 25 years and can provide the practical advice you need to help your builders and homeowners make the right choice. This session will highlight the essential elements of ventilation systems for high performance homes. Based on the EEBA Houses That Work Ventilation session that has been delivered to hundreds of builders and HVAC contractors across the country, raters attending this session will be better able to help builders and homeowners make better decisions. A full discussion of appropriate and cost-effective ventilation systems for each climate zone will be outlined to prepare raters for ENERGY STAR, LEED for Homes, NAHB Green now and in the future.

### **QAD Annually Required Roundtable**

Presenter: Clinton Heyn

Room: Wedgewood

RESNET Standards require ongoing Professional Development for Quality Assurance Designees. Part of this requirement is attendance at an annual QA Designee Roundtable. This session will cover RESNET's ongoing Quality Assurance efforts, findings and lessons learned from RESNET's QA review of Rating Providers, and upcoming developments. Attendees will be provided with areas of focus for compliance with RESNET Standards, including recently added or changed requirements. QA Designees can expect to receive an overview of their role in RESNET Quality Assurance, and to have the opportunity to provide and receive feedback regarding their and RESNET's QA program during a question and answer session. This session will qualify for the QA Designee Roundtable requirement for Quality Assurance Designees for 2012.

### **CertainTeed Workshop**

Location: Outside the Plaza Foyer

Training will explain the Following:

- The Value & Benefit of the Hybrid Wall.
- The Benefits of Air Sealing
- The Variance and Benefits of Open & Closed Foam Insulation.
- The Benefit of using Forticel and the "4" levels of protection.

### **Special Evening Session: Building Energy Efficient Homes that have 'Resilience' toward Natural Disasters**

5:30-7:30 PM

Presenters: Ken and Sharla Riead, Hathmore Technologies

Room: Wedgewood

The annual national cost of rebuilding after natural disasters is skyrocketing and the rationale behind continually rebuilding 'stick-built' homes and businesses that are easily blown apart is increasingly difficult to justify/insure. Momentum is growing for residences and businesses in disaster-prone areas to become 'resilient' toward high-winds, earthquakes, fires and other natural disasters. Drive-by shootings, arson and other man-created events can also be minimized by stronger, resilient construction materials and techniques that provide increased occupant safety, especially in higher crime areas or distressed communities. Properly done, a resilient building can be quiet, safe, highly energy-efficient and desirable.

This evening session is for anyone interested in learning how buildings can be designed, specified and constructed with disaster resilience in mind. Insurance premiums will likely decrease over time for disaster-resistant buildings. The question is, "Can these buildings be built affordably and reasonably quickly in the wake of natural disasters to help justify the cost and effort needed to rebuild?" Let's explore the latest options and trends together so that our energy auditor and rater industry can be better equipped to respond to natural disasters and subsequent rebuilding efforts.

### **Buses to Downtown Austin**

7:00-11:00 PM

Meet outside the hotel entrance for the FREE transportation to Downtown Austin!

## **Wednesday February 29, 2012**

### **Session 8**

8:30-10:00 AM

### **Marketing to Homebuyers: Capitalizing on the Compelling New ENERGY STAR Value Proposition – ENERGY STAR Track Session**

Presenters: Jon Passe and Brian Ng, US Environmental Protection Agency, ENERGY STAR for Homes Team

Room: Glass Oaks

By building homes to the new ENERGY STAR Version 3 requirements, builders have a more compelling message to share with consumers than ever before. Learn how EPA is integrating these messages into new and improved marketing materials that builders can use with prospective homebuyers. This session will review ENERGY STAR's consumer messaging platform, explain how it was developed, and showcase some of the new collateral pieces available for ENERGY STAR partners in 2012.

### **Unvented Attics using SPF: Best Practices for New Construction and Retrofit Applications**

Presenters: Michael Strohecker, Bayer Material Science; Brett Dillion, IBS Advisors and Daran Wastchak, D.R. Wastchak, LLC. , Others TBD

Room: Pecos

Bayer MaterialScience along with industry recognized leaders in HERS Rating will explain the performance benefits of using SPF in an unvented attic for both new construction and in retrofit. Topics to include condensation control, the impact of ductwork in conditioned space on HVAC sizing, and the effects of UVA on building envelope tightness. As these benefits also lend themselves to retrofit applications, we will introduce Bayer's newly developed HPRP retrofit program that creates a guide for the safe and effective use of SPF in retrofitting existing residential structures. In addition, we will discuss functional benefits for the builder, effects on building cost and house design, and compliance with Energy codes and Energy Programs, such as Energy Star 3.0.

### **Differentiating Yourself by Building Efficient New Homes- Learn the Tools Nevada Homebuilders are Using to Effectively Sell Profitable, High-Quality Homes in the Nation's Worst Housing Market – Builder Track Session**

Presenters: Doug Eddie, NV Energy Program Manager & Steve Hofer, CLEAResult Program Manager

Room: Sabine

Doug Eddie, Program Manager for NV Energy's Energy Plus New Homes Program, will present how building high-efficiency homes can help increase business for homebuilders, even in a severely depressed housing market. He will demonstrate how the combination of utility incentives and a sharpened sales message resulted in a significant increase in the construction of homes that are 30 percent more efficient than code – double the efficiency of ENERGY STAR v2.0 homes – all in a market that experienced a 71 percent decrease in home sales in the three years prior to program launch. The presentation will include useful information that you can incorporate into your own sales messaging to effectively convey all the advantages of buying an energy efficient home.

### **Managing and Growing Your Rater Business**

Presenter: Matthew Cooper, PEG

Room: San Antonio

As the President of PEG, one of the largest Rater Network businesses in America (65 Raters conducting more than 22,000 inspections per year), Matthew Cooper has a unique insight into the successful design, marketing, management and quality control of being a RESNET rating business. This session will focus on key elements to develop internally, critical aspects to effectively outsource and pitfalls to avoid at all costs. Having seen steady double digit growth for each of the past five years in this industry, the PEG process of conducting business has become a model for independent raters throughout the U.S. Matthew Cooper will provide essential resources and tools as well as specific examples of successful execution of each of the key elements that drive success in a complex economic climate.

### **For Homes with Swimming pools - Capture these enormous savings**

Presenters: Steve Easley, Easley & Associates and Jeff Farlow, Pentair

Room: San Marcos

For the 10 million homes in the US with a swimming pool, their biggest energy hog is in the backyard. The average 1.5 Hp pool pump draws 2kW, is typically scheduled during peak load times, and consumes a whopping 4000 kWh per year. This accounts for the total capacity of 25 medium sized power plants nationally. The good news is that advanced new ECM technology can cut this demand by up to 90%. The pool pump savings alone can easily exceed the total savings proved by all the home's appliances, combined. This saving opportunity is so commonly overlooked because it lies outside of the traditional envelope, where it doesn't count towards a home's energy rating. It still makes the customer's meter go round and round and shouldn't be ignored! Learn how to identify, evaluate, and provide your customers this tremendous energy saving opportunity.

### **The Devil in the Details; The Finer Points of Air Sealing**

Presenter: Jeff Boone, North Star Comfort

Room: Trinity A

When improving a home's energy efficiency, air sealing is generally near the top of the list, both in terms of effectiveness and payback. However, as anyone who has been in the field doing the air sealing will tell you, it is not always as easy in practice as it is in theory. This session will discuss air sealing for new and existing homes, commonly missed areas and best practices in getting a well-tightened house.

### **Basement Floor Insulation - How and Why**

Presenter: Daniel A. Tempas, Dow Building Solutions

Room: Trinity B

Many homeowners are looking for ways to increase the comfort of their basement living areas, especially if their home uses a floor heating system. All too often the methods and materials are not well documented nor available. In this presentation the methods for insulating a basement floor for both retrofit and new construction are discussed. When, where, and how to insulate and the overall effectiveness of floor insulation.

### **Combustion Safety Certification Simulation Test**

Presenters: Rob Moody, Organic Think and Doug Donovan, InterPlay

Room: Wedgewood

RESNET is offering its Raters the opportunity to take a performance simulation test to gain their certification in Combustion Safety. This innovative tool is part of a larger effort to improve learning outcomes of training and reduce time to competence. Simulation testing allows for unbiased, objective measurement of skills, knowledge and application of the Combustion Safety procedure.

### **Session 9**

10:30 AM- Noon

### **Critical Details in the HVAC System Quality Installation Rater Checklist – ENERGY STAR Track Session**

Presenters: Dean Gamble, US Environmental Protection Agency, ENERGY STAR for Homes Team and Steve Saunders, Tempo Air

Room: Glass Oaks

This session from EPA is designed for Raters and builders who are already familiar with the Checklist requirements. The session will not provide an overview of all requirements, but will instead focus on specific details that have triggered significant feedback and questions from partners. Attendees will leave this session with a clearer understanding of the intent and value of each detail and be better prepared to address misconceptions and mistakes that they may encounter in the field.

### **Performing Quality Assurance: How to Survive the RESNET Process**

Presenter: Brett Dillon, IBS Advisors

Room: Pecos

Focusing on the elements required under the RESNET Quality Assurance Standard, this session brings real-life examples of how to perform and what to avoid to withstand the scrutiny of the RESNET QA process.

### **Growing Green Jobs: The Economic Impact of Auditors & Raters**

Presenter: Bill Streetman, CLEAResult Vice President

Room: Sabine

Much political and social importance nationally has been placed on growing “green jobs” and creating economic development through a viable energy efficiency marketplace. Auditors and Raters can be catalysts for expanded economic development and the creation of green jobs within their own communities. It’s long been understood that every dollar that is spent in a local economy produces more a dollar’s worth of benefits to that community. When an independent Auditor/Rater works with a customer to assist them in their Journey to Energy Efficiency, they create a value stream that ripples through the local marketplace, through Direct, Indirect, and Induced means. As customers undertake efficiency upgrades, the dollars they spend increase opportunity for equipment manufacturers, contractors, suppliers and distributors, as well as for restaurants, barbershops, accountants, and other personal and business service providers. These dollars also attract new businesses to the local economy which in turn hire new employees, who themselves buy local products and services. This paper will cite the Economic Impact (Jobs and Dollars) of a specific Ohio utility In-home Audit program (a modified Home Performance program) implemented through Auditors and Raters. It will detail how Auditors and Raters create the environment for dollars to multiply as they roll through the marketplace, expanding economic impact on affected sectors, increasing tax collections, and creating of new jobs.

### **HERS Rating Software Forum**

Presenters: Brian Moy, ICF International; Rob Salcido, Architectural Energy and Jeff Sonne, FSEC

Room: San Antonio

This session will be structured as a panel discussion with representatives from REM/Rate and Energy Gauge that will be moderated by ICF. The primary purpose of the forum will be to discuss the features of each software and give users more insight into how to effectively model homes in each software program.

### **A 250 Home Energy Rating "Case Study", The City of Scottsdale Shares The Results**

Presenter: Daran Wastchak, DR Wastchak

Room: San Marcos

In a program that runs from 2010 to 2012, the City of Scottsdale, Arizona carved out \$250,000 of ARRA funding to provide citizens in the older section of the City an opportunity to learn more about the energy efficiency of their homes by completing Comprehensive Home Energy Audits for them for free. These audits, which include home energy ratings, may be the largest uniform group of ratings completed by a single Rater in such a short period of time. The data collected, recommendations made and findings from this significant group of home energy ratings will be shared with the RESNET audience by representatives of the City of Scottsdale and the Rater who completed the work, D.R. Wastchak, LLC.

### **Energy Audit Round Robin Results - "A Study in Uncertainty"**

Presenters: Michael Lubliner, Andy Gordon and David Hale, Washington State University Energy Program; and Duncan Prah, IBACOS

Room: Trinity A

The session will share the results of two "round robin" events, conducted by Washington State University with funding by NIST and others. The round robin events were held at ACI and EEBA conferences in 2011. The round robin had multiple energy experts conduct field testing, energy audits and develop work scopes on energy retrofits of a single home. The session presents focuses on audit findings and work plan consistency. The session will include a panel of experts who will discuss the implications of the findings with audience participation. Discussions regarding the usefulness of these "round robins" and the identification of future potential opportunities will also be a focus on the session.

### **Partnership For Success**

Presenters: David Beam and Amy Goforth, Insulate America

Room: Trinity B

This session is for RESNET raters to learn how they can work with our affiliated contractors coast to coast to drive success in the market. Our contractors are fully vetted, insured, professional and experienced. We are a preferred contractor for Home Depot and Lowes as well as many utilities. Our network provides additional opportunities and resources for the professional RESNET rater. Insulate America is the nation's largest independent insulation contractor. We operate in 45 states and currently have approximately 200 physical locations. We are not a division of a conglomerate or owned by a financier. We are in the insulation business.

### **Efficient and Effective Whole-house Ventilation**

Presenters: Amy Musser and Matthew Vande, VandeMusser Design and Ron Pariseau, GreenR

Room: Wedgewood

Few topics in building science create stronger opinions than the chosen method of ventilation. But many people don't realize that there is a wide range in installed system cost and energy use among possible systems. Seemingly small differences in the way systems are installed can have a big influence on how much the system costs to operate or whether it can deliver the intended amount of ventilation air. There are also strategies that every rater should be aware of that can increase the likelihood that the system will be used and will continue to perform over time. In this discussion, an engineer, a rater, and a manufacturer's representative/distributor will introduce the major system types, including pointers on helping each to achieve its intended performance. We will also discuss some of the opportunities and pitfalls for "advanced" systems, including ways to distribute the ventilation air throughout the home, provide air turnover, or integrate a heat recovery system with restroom exhaust.

**Session 10**  
1:30- 3:00 PM

**Case Studies in Coordination: ENERGY STAR Partners and HVAC Contractors Working Together to Ensure Success – ENERGY STAR Track Session**

Moderator: Dean Gamble, US Environmental Protection Agency, ENERGY STAR for Homes Team

Panelists: Greg Cobb, Sonoran Air, Inc.; Mike Mancini, Meritage Homes; and Daran Wastchak, DR Wastchak

Room: Glass Oaks

The new ENERGY STAR program requirements mean that builders, raters, and HVAC contractors need to work together throughout the construction process. This panel presentation will highlight the experiences and perspectives of ENERGY STAR partners who have teamed up with their HVAC contractors to ensure a successful experience building ENERGY STAR Qualified Homes.

**Lessons Learned from the Trenches - Crawl Spaces**

Presenter: David Treleven, Advanced Energy

Room: Pecos

The North Carolina System Vision program now requires all new homes be built with closed crawl spaces. Come hear what raters and others have learned and seen this past year as builders across the state learn how to build closed crawl spaces. They will discuss what has helped builders, what have been their biggest hurdles, and what raters can learn from these experiences.

**Top Ten Building Science Innovations for 2012: U.S. DOE's Building America Program Look Ahead**

Presenter: Eric Werling, DOE

Room: Sabine

The homebuilding industry critically needs a compelling value proposition to compete with millions of used homes. With over a million foreclosed homes selling at prices below the cost of constructing new homes and millions more existing homes selling at fire-sale prices, competition has never been tougher. Compelling value can be provided using building science developments from the U.S. Department of Energy 's (DOE) Building America program that promise to take homes to a new level of excellence. High utility bills can become a thing of the past while homeowners experience dramatically higher levels of comfort, quiet, air quality, and durability. This session will provide insight into some of the most exciting innovations coming from Building America's industry-driven research with 4 national laboratories, 14 building science research teams, and numerous industry partners. The resulting real-world solutions are expected to achieve significant energy and cost savings for homeowners and builders. This session will provide the latest details for ten of the most significant Building America developments forecasted to be market-ready in 2012.

**Building a QA Network**

Presenters: Glenn Pease, EnergyLogic and Abe Kruger, Kruger Sustainability Group

Room: San Antonio

Two major changes to the RESNET Quality Assurance Standard include removing the low volume exemption for field quality assurance and ongoing quality assurance appropriate to volume. In order to cut down on QA costs to all raters it is even more important that national providers build a QA network of Quality Assurance Designees. This session will be a forum discussion on ways we can build this network, and will include ideas on how to best cut costs for raters.

**Assessing the Accuracy of Residential Building Energy Simulation Using a Large Empirical Dataset**

Presenter: Dave Roberts, NREL

Room: San Marcos

Energy efficiency programs that target residential buildings often rely on energy modeling software and HERS in the design, implementation and evaluation of those programs. The success of these programs can depend on the accuracy of the simulation tools utilized. The Residential Buildings Research Group at the National Renewable Energy Laboratory (NREL) is working to assess and improve the accuracy of residential simulation tools used to predict building energy use and the energy savings from efficiency upgrades. NREL has assembled a database of residential buildings consisting of characteristics data sufficient to drive energy simulation models, coupled with historical utility billing data. This field data repository contains data from various historical energy efficiency programs and is being continually augmented with data from new national and regional programs. NREL has developed tools to create and run models through a number of energy simulation software tools (EnergyPlus, DOE-2.2, Home Energy Saver, REM/Rate) for the homes in the database. Energy modeling results are compared visually and statistically to utility billing data for the population of homes in the database. NREL has utilized this capability to compare results across software tools, to isolate and identify potential sources of inaccuracy, and to assess the relative importance of data collected in the field. Results and conclusions drawn from these studies will be presented.

### **Managing a Home Energy Upgrade Program**

Presenter: David Reed, JEA

Room: Trinity A

JEA, a public utility in Jacksonville, Florida, is managing several home energy upgrade programs. The programs went live on 11/1/2010. The program is managed by the JEA Conservation team and much has been learned about the design and implementation of an existing home upgrade program in an area that has never had an existing home retrofit incentive program. JEA staff will discuss the results and the lessons learned from first 15 months of the programs. Specific areas of discussion will include: Goals and program design, types and levels of incentives and the issues surrounding them, building relationships and training contractors, local climate and code considerations, branding and marketing, program sustainability beyond incentives, budgeting and “moving money” and more. Attendees should gain a much better understanding of the key issues surrounding the development and management of an energy efficiency incentive program.

### **Air Seal and Establish a Continuous Thermal Boundary at the Rim Joist, Top Plate, and Around Fenestrations**

Presenters: Scott Cummings and Linda Jeng, Dow Building Solutions

Room: Trinity B

Strengthening energy codes and the migration toward Energy Star V3 have dramatically increased designer and builder focus on the continuity of the residential thermal boundary. While system R-value dominates planning, rating professionals understand that air and moisture infiltration plays a vital role in home energy efficiency. Nowhere is this more important than at the transitions: windows/doors, penetrations, wall-to-below grade intersections and attic-to-wall intersections. This presentation focuses on managing energy and moisture transfer at these key discontinuities; particularly in systems sheathed with rigid foam insulation. We will start with an examination of the rim joist area to determine the best methods for tying wall systems to slab, basement, and crawlspace insulations. We will also explore strategies for tying attic insulation into the top of the wall to provide continuity, prevent moisture penetration, and minimize opportunities for wind-washing. We will finish with an in-depth analysis of the best methods for sealing wall penetrations from both the inside and the outside of the sheathing. While builders and planners generally agree on how to flash and seal housewrap systems, there is no such agreement on flashing and sealing wall penetrations in foam sheathing. This presentation will use a combination of laboratory test data, design modeling, and field examples to arrive at a set of design recommendations for these key trouble areas of a residential wall insulation system.

### **Airflow Measurement Techniques**

Presenter: Bill Spohn, TruTech Tools

Room: Wedgewood

Measuring airflow can be one of the trickiest tasks you encounter. This session will examine the a wide variety of methods used to test air flow and along with the positives and negatives of each technique.

**Session 11**  
3:30- 5:00 PM

**ENERGY STAR for Multi-Family High Rise Buildings – ENERGY STAR Track Session**

Presenters: Gayathri Vijayakumar, Steven Winter Associates, in support of EPA

Room: Glass Oaks

EPA recently finalized guidelines and processes for multi-family high rise buildings to earn the ENERGY STAR. Learn about how you can participate as a Rater and hear case studies about some of the buildings that were qualified in the pilot phase of the program.

**PHIUS+ Certification: Quality Assurance for Passive Houses**

Presenters: Ryan Abendroth and John Semmelhack, Passive House

Room: Pecos

The Passive House Building Energy standard is a rigorous, specific, and measurable building performance standard that comprises a whole structure, unified design approach to meet stringent energy goals. Both the design and certification of a Passive House, rely on accurate energy modeling through the Passive House Planning Package 2007 (PHPP) Software. For Passive House Buildings to perform at the highest level, strict attention needs to be paid to quality assurance and quality control of the final certified project. To this end, the Passive House Institute US (PHIUS) and RESNET entered into a strategic partnership that looks to synchronize standards, modeling, quality assurance, and quality control for low energy homes and buildings.

The RESNET Conference presentation focuses on the PHIUS+ Certification Process which is the culmination of the PHIUS-RESNET partnership. PHIUS+ Certification includes the harmonization of RemRate/EnergyGuage and the PHPP to give accurate and verified HERS results for super-insulated low energy buildings. A key component of PHIUS+ Certification is the quality assurance PHIUS-RESNET Rater Program which will be discussed in detail. The PHIUS+ Certification Process makes it possible to standardize Passive House HERS Ratings throughout the United States.

**Understanding the Value of Indoor airPLUS Program: Strategies for Creating Healthier Home Environments**

Presenters: David Price, EPA

Room: Sabine

You will learn about the EPA Indoor airPLUS Construction Specifications so you can build and rate Indoor airPLUS homes. This session will provide an in-depth understanding of the benefits of being an Indoor airPLUS Partner, and explore the resources and tools available to help partners differentiate their homes from the competition. Participants will learn how to market their business through leveraging social media and other available marketing tools and promoting their commitment to providing healthier homes and improved indoor air quality. In addition participants will gain knowledge of how EPA interprets the Construction Specifications and walk away ready to build and rate Indoor airPLUS homes!

**SIPA Breakout Session**

Presenter: Al Cobb, SIP School

Room: San Antonio

This session will review Structural Insulated Panels as a building component and how SIPs are installed to create an air-tight envelope. Conference attendees will be exposed to techniques that SIP installers use to ensure energy-efficiency. SIP successes and failures will be explored, with emphasis on common areas of weakness in sealing SIP envelopes and strategies to improve overall performance.

**Build Affordable and Energy Efficient: A Case Study - Mason County Texas Habitat for Humanity**

Presenters: Keith Kaan and Michael Lopez, Habitat for Humanity Texas

Room: San Marcos

Mason is a small community in the Texas Hill Country where much of the economic activity is driven by the agricultural industry. Within this county is a Habitat for Humanity affiliate which only builds one house per year, but does so very

seriously. Within the last five years, they have incorporated systems such as: Insulated concrete forms, ground source heat pump and solar thermal technology. This vision is being led by a retired mechanical engineer, Keith Kaan, who uses research and development in a very pragmatic way. Because of Habitat for Humanity's business model, affordability is the driving force behind his designs in conjunction with volunteer friendly construction methods. If you've always wondered how the masses can be reached with affordable green building, then this is a must see. You'll also learn how this affiliate has put a partner family in a home where monthly electrical consumption is as low as \$20.00!

### **Energy Code Performance Compliance with the International Code Compliance Calculator-IC3**

Presenter: Ed Dryden, City of Arlington, Texas

Room: Trinity A

IC3 is a simple, fully performance based, web-based energy code compliance tool. It is currently accepted by major Texas Jurisdictions, including Dallas, Houston, San Antonio and Austin, to not only show compliance with the 2009 IECC, but to also to show the true above code percentages to improve the efficiency of newly built single family residences in Texas. Funded partially by the US DOE and the State of Texas, through the State Energy Conservation Office, the software creates a Registry, which allows trend calculations on new home construction, aggregation of energy savings for the jurisdictions or the State and quantification of the US EPA approved emissions reduction credits. IC3 can also verify the 90% compliance. It produces a code compliance certificate as well as an energy checklist.

IC3v3.10 is the latest in a long history of fully performance based, web based energy efficiency calculators produced by the Energy Systems Laboratory (ESL) at the Texas A&M University System.

### **Verifying and Measuring Ventilation Systems**

Presenters: Chip Henderson and Geoffrey Zawacki, Contects and Carsie A. Hall PhD, ResCom Energy Savers

Room: Trinity B

Energy Star Version 3 and the LEED for Homes green rating system both require the HERS Rater to verify the ventilation system is designed and installed to meet ASHRAE 62.2 requirements. This session will focus on the "what, why, and how" of ASHRAE 62.2. What – are the basics of the standard and how to calculate fresh air (CFM) requirements. Why – the rationale behind the requirement as it relates to building science and occupancy health. How – explore various approaches to measuring air flow in ventilation systems (pitot tube and manometer, balometer capture hood, and blower door) and the pros and cons of each approach.

Depending on allotted time, wrapping up with various real world examples of ventilation systems and connecting these examples to the Energy Star Version 3 HVAC System Quality Installation Contractor Checklist.

### **Work Smart with Low Pressure Spray Polyurethane Foam**

Presenters: Leba Lualdi and Tim Kenworthy, Fomo Products

Room: Wedgewood

The weatherization / home performance market is growing rapidly, and polyurethane foam is critical to air-sealing applications. Low pressure spray polyurethane foam (SPF) can be used by a professional in several spots in a home to stop air infiltration and increase energy efficiency. Working smart is choosing the best solution for energy efficiency challenges and then executing projects safely. Fomo Products, Inc., a low pressure SPF manufacturer, will present best practices to work smart, including new weatherization applications for residential remodeling, and health and safety guidelines for low pressure spray foam. Learn about simple, cost-saving low pressure SPF applications, and health and safety guidelines for using low pressure SPF during this session.