

**ADVANCED WUFI COMPUTER MODELING WORKSHOP
FOR WALL DESIGN AND PERFORMANCE
(HEAT AND MOISTURE TRANSFER IN BUILDING ENVELOPES)
Napa, CA, January 30 - February 1, 2012**



U.S. DEPARTMENT OF
ENERGY

Building Technologies Research
and Integration Center



WUFI/ORNL¹ Program made available by the U.S Department of Energy

Fraunhofer



Institut
Bauphysik



This symposium and workshop is co-sponsored by the U.S. Department of Energy (DOE) through Oak Ridge National Laboratory (ORNL) in collaboration with the Fraunhofer-Institut für Bauphysik (IBP) and co-sponsored by the National Institute of Building Sciences (NIBS)/ Building Enclosure Technology and Environment Council (BETEC), Owens Corning, and National Building Science Corporation (NBSC) of California. It is endorsed by the Building Enclosure Council (BEC) of Boston.



Building
Enclosure
Council

You are invited to register for the ADVANCED WUFI workshop. Prerequisite is a prior WUFI 1D workshop or equivalent experience. This 2-1/2-day workshop includes advanced instruction in WUFI-ORNL/ WUFI Pro 1D, instruction in WUFI Plus (the whole building model), and WUFI 2D. The curriculum is on the next page. Instructors are WUFI developers from Oak Ridge National Laboratory and Fraunhofer Institute of Building Physics and Owens Corning. The Advanced Workshop will be held in Napa, California wine country, Monday, January 30 through noon on Wednesday, February 1. There is a workshop registration link below.

<http://events.constantcontact.com/register/event?llr=lbiqjbbab&oeidk=a07e5g522031bfd86be>

Alternatively, you may fill out the registration form on the last page of this brochure.

This is a 2-1/2-day lecture and hands-on workshop where you will receive CDs for each type of software to load onto your laptop to use during the workshop. You will have temporary licenses for the software. For more specific information on these hygrothermal modeling workshops, go to <http://www.section08.com/wufi.htm>.

The 2-1/2-day workshop fee is \$1,300.00.00 and includes the temporary software licenses, a.m. and p.m. breaks each day and lunches on Days 1 and 2. Workshop will end at noon on the third day, so you will be on your own to have lunch where you like, go on a tour, catch a plane, etc.

We will also have the standard WUFI-ORNL/WUFI Pro on the Thursday and Friday before (Jan. 26-27), giving you time to play on the weekend in between, should you want to attend both.

¹ WUFI = **W**ärme und **F**euchte **i**nstationär
2012-0109

ORNL = Oak Ridge National Laboratory

WUFI® ADVANCED WORKSHOP, JANUARY 30 - FEBRUARY 1, 2012 (2-1/2 days)

Day 1 – WUFI Pro® (1D) Advanced Workshop January 30, 8:30 a.m. to 5:00 p.m.

- WUFI® application examples in comparison to field and laboratory tests
- New features in WUFI® 5 and outlook
- Advanced fundamentals
- Modelling cladding ventilation
- Modelling the moisture loads from air exfiltration
- Modelling drainage
- PCM in walls – measurement and simulation
- Update on moisture control standards and guidelines
- Moisture load on external walls
- Explicit radiation balance
- Modelling surface moisture due to condensation
- Modelling corrosion

Day 2 - WUFI®-Plus Workshop January 31, 2012, 8:30a.m. to 5:00 p.m.

- Why is there a need for a Plus in WUFI®?
- Fundamentals of WUFI®-Plus
- Results from IEA Annex 41, moisture buffering and energy savings
- Hands-on simulation
- The influence of internal boundary conditions on the hygrothermal performance of construction assemblies
- Comparison between WUFI®-Plus, Trnsys®, ESP-r® and Energy-Plus® and explanation of discrepancies in simulation results
- Experimental validation
- Indoor climate monitoring and simulation of Bavarian castles
- Thermal comfort evaluation
- WUFI®-Plus project work
- Net-Zero Energy Houses in Dubai (concept design using WUFI®-Plus)
- Q+A

Day 3 - WUFI® 2D Workshop February 1, 2012, 8:30 a.m. to 12:00 p.m.

- Differences of 1D and 2D calculations (anisotropy, boundary conditions etc.)
- Heat and moisture bridges
- Tour through WUFI® 2D (Results)
- WUFI® 2D Application examples
 - Wooden baseplate on concrete slab
 - Interior basement insulation
 - Capillary active interior insulation
- Hands on - Project case
- Tips and Tricks (Batch mode, reduced surface transfer in corners, evaluation drafts etc...)
- Special applications incl. CFD or radiant symmetry:
 - Simulation of half timbered heritage constructions
 - Hygrothermal conditions around wall ties
- Q & A

ADVANCED WUFI WORKSHOP, Jan. 30 – Feb. 1, 2012
MEETING LOCATION:
EMBASSY SUITES NAPA VALLEY
1075 CALIFORNIA BLVD, NAPA, CA 94559

Your hotel room, should you need one, is separate and payable to the hotel.

HOTEL REGISTRATION:

To register for the hotel online, use group code WUA and use this link:

http://embassysuites.hilton.com/en/es/groups/personalized/N/NAPVLES-WUF-20120125/index.jhtml?WT.mc_id=POG

Or call the hotel at 707-320-9510 and ask for the group rate of \$119/night (plus tax) for the group name "National Building Science Corp. WUFI Workshop".

There is a lot to do in this beautiful part of the country -- golf, balloon rides, winery tours, hiking, art galleries, etc. -- a great place to extend your stay and spend some time with your sweetheart!

Workshop registration is on the next page.

REGISTRATION – NAPA, CALIFORNIA – JAN. 30 – FEB. 1, 2012

ADVANCED WUFI Workshop

This form may be duplicated for additional registrations.

Advanced WUFI-ORNL, WUFI Pro; WUFI Plus, WUFI 2D.

Prerequisite: WUFI-ORNL or WUFI Pro workshop or equivalent experience:

Price: U.S. \$1,300.00

To register online:

<http://events.constantcontact.com/register/event?llr=lbiqjbbab&oeidk=a07e5g522031bfd86be>

Two other ways to register:

1. E-mail form to

jackiebh@section08.com

2. Mail to National Building Science Corp.

1220 Rosecrans Street #119

San Diego, CA 92106

Office phone (619) 450-6446

Mobile phone-Jackie (951) 265-1501



Included:

- WUFI instruction Mon Jan. 30- Wed Feb. 1, temp lic/software
- Morning breaks each day, lunches and afternoon breaks Monday and Tuesday

WORKSHOP RESERVATION:

Price: U.S. \$1,300.00

Payment Method:

Check Visa or Mastercard
(Sorry, no Discover, AMX, etc.)

Last Name	First Name	Middle Initial
Title:		
Company/Organization:		
Business Street Address:		
City:	State:	Zip:
Business Phone:	Fax:	
E-Mail Address:		

Cardholder's Name (please print)	
Card Billing Address:	
Credit Card #	Exp. Date
Signature:	

* You will be notified promptly of any cancellations or schedule or program changes. If a program is cancelled or postponed, we will refund registration fees but cannot be held responsible for any other related costs, charges, or expenses, including cancellation/change charges assessed by airlines or travel agencies. Refunds of registration fees, when cancelled by the registrant, are 90% refundable if notice is given via e-mail by **January 18, 2012**.

Building Technologies Research
and Integration Center



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