



WUFI-ORNL/IBP Software

2-Day Workshop

May 30 – 31, 2002

Heat and moisture transfer in building envelopes

The Oak Ridge National Laboratory in conjunction with IBP Germany are organizing a 2-day workshop to be held at PENN State University. This workshop is jointly sponsored by:

- BETEC (the Building Environment and Thermal Envelope Council)
- Oak Ridge National Laboratory
- The Fraunhofer-Institut für Bauphysik (IBP), and
- the Pennsylvania Housing Research/Resource Center (PHRC) at Penn State.

A day and a half will be spent on the **WUFI-ORNL/IBP** model and the remainder of day 2 is optional; it will focus on **WUFI Pro** and **WUFI-2D** heat and moisture transfer model. The instructors of the course will be Dr. Achilles Karagiozis, Dr. Andreas Holm and Andre Desjarlais.

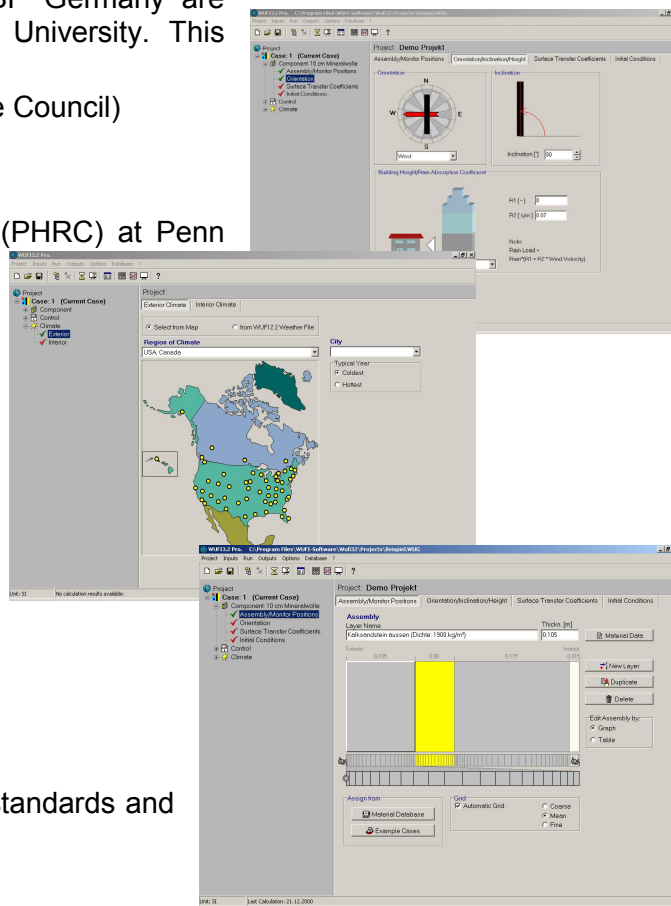
This 2-day workshop will provide participants with:

- Practical applications and validation of modern hygro-thermal simulation tools
- Fundamentals and pre-requisites for practical application
- Do's and Don'ts of WUFI ORNL/IBP
- What do the results mean, e.g., predicting microbial growth
- Development and future extensions of WUFI ORNL/IBP, standards and guidelines

WUFI ORNL/IBP software allows the realistic simulation of the transient hygrothermal behavior of multi-layer building walls exposed to natural weather.

The **WUFI-ORNL/IBP** model can handle contributions from rain, solar radiation and other crucial weather events on an hourly basis. Both vapor and liquid transport are included, along with the sorptive capacity of building construction materials.

WUFI ORNL/IBP offers an easy and user-friendly interface for data input and output. The definition of the component geometry is performed by a graphical interface with automatic grid generation. **WUFI ORNL/IBP** comes complete with weather data for 53 North-American cities. The temporal behavior of the computed quantities (temperatures, relative humidities and water contents) can be analyzed with the help of preconfigured or user-defined diagrams. Furthermore all the computed profiles can be displayed in rapid succession as a film that shows the transient thermal and hygric processes occurring in the enclosure. This film is ideal for gaining insights into the hygrothermal processes and for developing a 'feel' for the situation. The reactions of the different materials to the changing climatic conditions can be directly visualized. **WUFI ORNL/IBP** is free of charge for all North-American users and can be downloaded from the web. This model was partially sponsored by US-DOE.



Fee and Registration

The cost of this workshop is \$150 per person. To register, please complete the registration form below and return it with your \$150 fee. We will confirm your enrollment in the program and provide information on travel and accommodations. The fee may be paid by check (made payable to Penn State), VISA or MasterCard.

Attendees will receive a certificate of attendance and a copy of the WUFI-ORNL/IBP Software. Registration fees cover all instruction, software, all breaks, and lunch and dinner on day one. Registrants are responsible for all other meals and for lodging. A block of rooms has been set aside at the Penn Stater Conference Center Hotel, (800) 893-4602, in State College. To reserve a room at the special rate of \$89.00 per night for single occupancy, please request reservation identification number **CIV0529**. This rate is only available until April 29.

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.

For questions regarding the workshop, please contact:

Patricia M. Cichowski
BETEC/NIBS
1090 Vermont Avenue, NW Suite 700
Washington, DC 20005-4905
Fax: (202) 289-1092
Email: pcichowski@nibs.org

To register or for questions regarding Penn State University, please contact:

Michelle L. McMullen
Penn State University
219 Sackett Building
University Park, PA 16823
Phone: (814) 865-7915
Email: mlm3@psu.edu

Registration Form

This form may be duplicated for additional registrations.

Three easy ways to register:

- (1) fax: 814-863-7304
- (2) phone: 814-865-7915
- (3) mail to: Penn State University
Attn: Michelle McMullen
219 Sackett Building
University Park, PA 16802

Method of Payment: (check one)

- Check - \$150 (payable to Penn State)**
- Charge \$150 to:**
 VISA **MasterCard**

Last Name First Name Middle Initial

Title

Company/Organization

Business Address

City State Zip

Business Phone Fax

E-Mail Address

Cardholders Name (please print)

Credit Card # Exp. date

Signature

Fraunhofer

Institut
Bauphysik
Fraunhofer-Institut für Bauphysik (IBP)

Director: Univ.-Prof. Dr.-Ing. habil. Dr. h.c. mult. Dr. E.h. mult. Karl Gertis
Fraunhoferstraße 10, D-83626 Valley
Postf. 1152, 83601 Holzkirchen

PENNSTATE



The Pennsylvania State University



Dr. Achilles Karagiozis
Oak Ridge National Laboratory
Building Thermal Envelope Systems & Materials
1 Bethel Valley Road, Oak Ridge, TN 37831-6070