



# Fall '98 Solar Center Calendar

## Passive Solar Strategies & Energy-10 Software

November 12 & 13, 1998

*D.H. Hill Library, NC State University*

## Designing and Building A Solar Home

December 4 & 5, 1998

*Appalachian State University, Boone, NC*

## National Tour of Solar Homes

October 17, 1998

Address Correction Requested



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College of Engineering  
**NC STATE UNIVERSITY**

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## Fall '98 Solar Center Calendar

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Work Phone: \_\_\_\_\_ Home Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

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**Passive Solar Strategies & Energy-10 Software** D.H. Hill Library, NCSU, November 12 & 13  
Enclosed is my **Registration Fee**, \$250 per person \_\_\_\_\_ (received by Nov. 5) \$300 \_\_\_\_\_ (after Nov. 5)

**Designing and Building a Solar Home** Boone, NC, December 4 & 5  
Enclosed is my **Registration Fee**, \$110 per person \_\_\_\_\_ (received by Nov. 25) \$125 \_\_\_\_\_ (after Nov. 25)  
Dietary Preferences \_\_\_\_\_

**National Tour of Solar Homes – The Triangle Tour '98** October 17  
Enclosed is my **Registration Fee**, \$115\* per person \_\_\_\_\_ (received by Oct. 9) \$20 \_\_\_\_\_ (after Oct. 9);  
NCSEA members, \$10 per person \_\_\_\_\_ (received by Oct. 9) \$15 \_\_\_\_\_ (after Oct. 9);  
Students, \$5 \_\_\_\_\_ (received by Oct. 9) \$10 \_\_\_\_\_ (after Oct. 9)

\*Non-members will receive a one-year NCSEA membership, with registration.

Fax or mail me a National Tour of Solar Homes '98 Brochure.

**Total enclosed:** \_\_\_\_\_ Cancellations with refund may be made up to one week before the events. Substitutions allowed.

Make check or money order payable to: **N.C. Solar Center**, Box 7401, Raleigh, NC 27695-7401

For more information, call the N.C. Solar Center at **919-515-3480** or **1-800-33 NC SUN** (toll free in N.C.)



## Designing Low Energy Buildings: Passive Solar Strategies & Energy-10 Software

November 12 & 13, 1998  
D.H. Hill Library, NC State University

This two-day, hands-on computer workshop covers all aspects of designing energy efficient small commercial buildings. Developed for architects and consulting mechanical engineers, the workshop is built around the fast and easy-to-use Windows-based Energy-10 software package. It is designed to be used on commercial, institutional and residential buildings with one or two thermal zones and approximately 10,000 square feet and under. It relies on a "whole building" approach and integrates passive solar strategies, daylighting, and low energy cooling strategies with energy-efficient shell design and mechanical systems.

Since re-designing a building is rarely possible in the fast pace and tight budgets of the commercial market, Energy-10 was developed to demonstrate the consequences of various decisions early in the design process. The software first compiles a default building file based on building size and use, then evaluates and ranks any of sixteen different strategies and presents the results in easy to understand color graphs. The designer can then further define the building file, adding their own custom materials and building assemblies if needed. The evaluations are comprehensive, hour-by-hour calculations based on typical long-term average conditions for a wide selection of locations in the United States.

The sixteen energy-efficient strategies covered in the workshop:

<b>Daylighting</b>	<b>Glazing Options</b>
<b>Shading Techniques</b>	<b>Energy-Efficient Lighting</b>
<b>Lighting Control</b>	<b>Insulation Levels</b>
<b>Air Leakage Control</b>	<b>Thermal Mass</b>
<b>Passive Solar Heating</b>	<b>Natural Ventilation</b>
<b>Economizer Cycle</b>	<b>Exhaust Heat Recovery</b>
<b>High Efficiency HVAC</b>	<b>HVAC Controls</b>
<b>Evaporative Cooling</b>	<b>Solar Water Heating</b>

The presenters are: Bill Bobenhausen, P.E., a nationally known engineer and educator from New York; Alicia Ravetto, AIA, a N.C. architect with many years of experience in daylighting and passive solar design; and Henry Rogers, a solar energy extension specialist with the N.C. Solar Center.

## Designing & Building A Solar Home

December 4 & 5, 1998  
Kerr Scott Hall, Appalachian State University

### What the Workshop Will Cover

This workshop is for anyone—homeowners, architects, builders—involved in the process of building a new home. Information covered in the workshop addresses the most important decisions when designing and building a resourceful, efficient and healthy house. Topics include choosing a site with good solar access, selecting "green" building materials, and evaluating active solar, photovoltaic and HVAC systems.

The workshop presenters will be Henry Rogers, solar energy extension specialist, N.C. Solar Center and Jeff Tiller, Asst. Professor of Building Science at Appalachian State University and co-founder of the Southface Energy Institute in Atlanta, GA. In addition to the instructors, a building professional from the area will present specialized information.

The workshop fee is **\$110** and includes a workbook, materials, lunches, and publications. A 10 percent discount is offered for couples or group registrations. Kerr Scott Hall is located on the campus of Appalachian State University in Boone, NC.

### Agenda

#### Friday, December 4

8:30-9:00	Registration
9:00-9:30	Introduction to Workshop
9:30-10:45	The Homebuilding Process
11:00-12:00	Siting Your Solar Home
1:00-2:15	Plans, Drawings and Contracts
2:30-5:00	Solar Home Design Guidelines

#### Saturday, December 5

9:00-10:30	Energy Efficient Construction: <i>Techniques</i>
10:45-12:00	Energy Efficient Construction: <i>Materials</i>
1:00-2:00	Environmental Building Issues
2:15-4:30	Energy Efficient Construction: <i>HVAC &amp; Lighting</i>
4:30-5:00	Additional Resources and Closing Remarks

### For More Information Call:

**1-800-33 NC SUN or 919-515-3480**

The N.C. Solar Center is sponsored by the Energy Division, N.C. Department of Commerce, and the U.S. Department of Energy, with State Energy Conservation Program funds, in cooperation with North Carolina State University.

 17,500 copies of this document were printed on recycled paper at a cost of \$1,325 or \$.08 each.

## National Tour of Solar Homes

Saturday, October 17, 1998

Experience the energy and beauty the sun can bring to your home by participating in the 1998 National Tour of Solar Homes. Home tours will be taking place in almost every state in the U.S., and North Carolina is offering three tours plus a few "solo" homes in other towns. Last year more than 12,000 people visited solar buildings in over 100 communities across the country! Don't miss out on this opportunity to see your solar dream house first-hand. Talk to the owners, builders and designers to see for yourself how well solar works and how affordable it is.

Tours in North Carolina will be held in the Triangle area, Asheville, Boone, and Burnsville Area. This year's Triangle Area Tour will feature homes in Chatham and Durham County, demonstrating a range of solar technologies and healthy building designs including: **passive solar heating, active solar hot water and space systems, radiant floors and high-mass houses.**

Meet at the Church of Reconciliation, 110 N Elliott Rd., in Chapel Hill on the morning of October 17<sup>th</sup>, for the Triangle Area Tour. Registration is from 8:30 – 10:30 am. Be sure and come early for a program on solar home design from 9:00 – 9:45 am. The tour includes a booklet, which describes the energy features of each home, and a map that guides you through the tour. Go at your own pace, visiting as many or as few of the homes as you like. There will be knowledgeable people at each home to answer your questions.

The Triangle Area Tour lasts from 10:00 a.m. – 4:00 p.m. Included in the registration fee for non-members is a one-year membership to the North Carolina Solar Energy Association (NCSEA). Discounted tickets are available for current members.

Immediately following the tour at 4:30 p.m. is the NCSEA annual meeting, followed by a social hour, and then dinner with speaker Tom Starrs. For additional information about the Triangle Area Tour, see the NCSEA web page:

[www.mindspring.com/~ncsea](http://www.mindspring.com/~ncsea)

For more information on other North Carolina Tours, please refer to the following phone numbers:

Asheville:	(828) 687-7618
Boone*:	(828) 262-2949 or (828) 264-6026
Burnsville Area:	(828) 675-5591 or (828) 675-9048

\*The Boone tour will be held on October 31, 1998.