



SCANTLINGS

NEWSLETTER OF THE TIMBER FRAMERS GUILD
NUMBER 186
MAY-JUNE 2014

Program set for 2014 Guild Conference in Manchester

WILL BEEMER

The schedule for our annual conference—August 7–10 in Manchester, N.H.—is set. It offers many opportunities of exceptional variety to learn about our craft. Four tracks will focus on the history of timber framing, running a successful business, hands-on skills, and design and engineering. Here's the lineup.

Thursday, August 7: pre-conference all-day events

Traditional Timberframe Research and Advisory Group (TTRAG) bus tour with stops at:

- Sandown Meetinghouse (1773), considered by many the finest example of its type from Colonial America. Jane Griswold Radocchia and Will Truax will be on hand to describe the geometry and design by Timothy Palmer, who built it at age 22.
- The 200-year-old Taylor “up-and-down” water-powered sawmill in the Ballard State Forest, operated and cared for by Guild member Bob Spoerl.
- Sanborne Mills Farm, a traditional New Hampshire working farm from the 1830s that

See Conference, page 4

Preparing for Pemberton

RANDY CHURCHILL

The TFG Pemberton project has evolved very quickly once the Village of Pemberton received grant funding and committed to go forward with us in late January. The community's goal is to have a usable structure this summer to host their popular farmers' market and other outdoor public activities: a very ambitious timeline for a 50 x 150-ft. structure. With great advance work done a year ago by Alicia Spence, Guild leadership was cautious but confident we could provide a meaningful event to members and be a responsible building partner to the village. Here's an overview of preparations for the keystone event in this year's Guild project calendar.

Pemberton Village has mobilized fully to make this project succeed. Their volunteer coordination team is pretty hard to keep up with, and the shepherd of that group is a village staffer, Suzanne Bélanger, whom the volunteer TFG crew is going to know and love by the end of the project (fair warning to her husband Tom). Many in the village are already at work pouring foundations and milling purlin timbers with donated logs a few hundred meters from the final building. A community park is to be converted to the TFG campground (complete with fire pit) for the majority of volunteers, and others will find clean sheets at home-billets all over town.

Pemberton blog

[Follow the Pemberton project](#) as it develops.

Meals are going to be fantastic, worth coming for all by themselves. Each restaurant in town is taking on one full meal, so we'll have a huge variety of great vittles. The successful frame raising will be followed up with a celebration Friday evening as community and crew get together for a boisterous “hoedown” late into the evening. (Note that Saturday the 24th has been reserved for a rain day.)

The leadership team has been selected and is already deep in organizing fabrication stations, the raising

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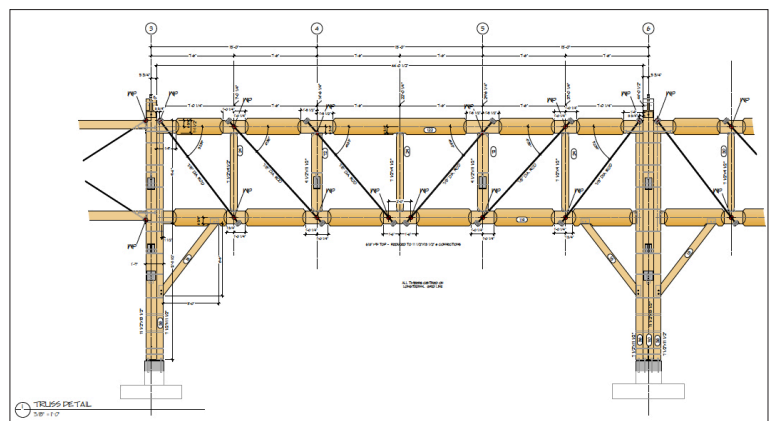


image by ISL Engineering

Longitudinal top and bottom log truss chords for the Pemberton barn.

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Newsletter of the Timber Framers Guild
Number 186 May-June 2014

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Scantlings, the member newsletter of the Timber Framers Guild, is published in January, February, April, May, July, August, October, and November. Next deadline: June 10.

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Looking back at Naconiche

TIM CHAUVIN

The Guild's Lake Naconiche Pavilion workshop in March in Nacogdoches, Texas, has been successfully completed, and I have a few observations and some thank-yous.

For me it was a pleasure to have the Guild back in my hometown and shop. It was great once again to see and work with old friends, and to make quite a few new ones. Timber framing is a unique way of bringing together good people, and this workshop was no exception. After just over a week of work we left behind a beautiful new landmark here in the East Texas Piney Woods and a new appreciation of the trade and the Guild.

This project could not have happened without the vision and support of the Rotary Club of Nacogdoches and the leadership of Jimmy Mize, Ed Pool, Sam Smith, Ron Collins, and Bill Puckett. They pulled together the funding, local support, and organization that we enjoyed while here. Support of Guild members came from Northcott Woodworks (N.H.), Heritage Natural Finishes (Colo.), Herrmann Timber Frame Homes (Ont.), Timber Frames Unlimited (N.J.) and Red Suspenders Timber Frames (Texas). The instruction team of Curtis Milton, Ben Loveland, Jim Holzknecht, and Gerry Davis did a fantastic job of organization, instruction, and encouragement throughout. Last but certainly not least, the participants really are the ones who raised this timber frame. All deserve thanks and kudos for doing their parts and just a little bit more.

The first Guild project here in East Texas happened in 1994 followed by four more through 2004. Twenty years after that first effort, the Guild is still creating landmark buildings here and leaving behind much more in the form of education, community, and goodwill. I want to thank all of you involved in this long legacy of projects. You really have done remarkable things here.

See the entire [Naconiche blog](#).

NOTICES



help wanted

CAD designer.

Fire Tower Engineered Timber seeks a designer, mainly to prepare drawings for heavy timber and SIPs projects. Minimum qualifications: 2-year college degree, 3-5 years of 3D and 2D CAD drawings. Wages commensurate w/ experience. Send resume to [Mack Magee](#).

Qualified joiners.

Heirloom Timber Framing is seeking qualified timber joiners for a unique, fun and rewarding timber home project. To learn more, [visit the project information site](#).

Timber framer.

The Cascade Joinery seeks an experienced timber framer to join our shop crew. Competitive wage and benefits package. For more information, [email John Miller](#) for call him at 360/527-0119.

Geo building design event: specifics

SUSAN WITTER

The June 14–22 geometrical building design event at Trillium Dell, in Knoxville, Ill., is really two events. The first, larger part is a nine-day intensive workshop taught by building design geometer and researcher Laurie Smith in partnership with Trillium's Rick Collins, open to all skill levels and backgrounds. Laurie and Rick plan to study geometrical methods commonly used to design, lay out, and build historic structures (and their components). Laurie has taught twice before in conjunction with the Guild. Rick will teach his method of integrating geometrical design principles to practical cutting and tooling techniques with both hand and power tools.

Instruction will include scribing, compound layout, cutting, frame raising, design elements, and more. It will meet Apprentice-Journeyworker curriculum guidelines for relevant sections.

Lodging means camping in Trillium Dell's beautiful 50-acre wood, with shower and facilities. Meals, included in the fee, are prepared with Trillium Dell Farm natural meats, eggs, vegetables, and other locally produced ingredients. Cost for the entire nine days is \$1500.

The second, smaller event is a weekend rendezvous, June 21 and 22. It concludes the intensive and focuses on architecture, engineering, and geometrical design

systems. The four presenters, each sharing in two-hour blocks, are:

- Laurie Smith (The Geometrical Design Works, U.K.) on translating ancient geometries into modern building design.
- Joe Miller (Fire Tower Engineered Timber) on heavy timber construction and building codes: a nondogmatic approach.
- Aimee and Kevin Buccellato (University of Notre Dame School of Architecture, Buccellato Design) on classical architecture: a living language.
- Rick Collins (Trillium Dell) on timber framing: an age-old craft meets the modern era.

Cost for the weekend is \$175 and includes presentations, meals, a tour of the Trillium Dell facility, and free camping.

The two events have a local purpose, as well—building an outdoor facility for the people of the Appleton–Oak Run community. The pavilion, featuring a unique viewing opportunity for the setting sun, will stand at the local volunteer fire station and serve as extra seating for fund-raising breakfasts as well as for other City of Knoxville, community, and citizen events.

To register, reach [Brandee Stowe](#).



Joe Miller

This 18-foot diameter octagonal pavilion, designed by Laurie Smith using true medieval circle geometry, features a suspended boss pin and timber framed entry to the east, and on the west face, wattle and daub infill walls (infill not shown) with eight-sided star cutouts included low in the wall that allow the setting sun to enter.

Conference, from page 1

includes a water-powered grist mill, sawmill, blacksmith shop, and many timber-framed buildings. There have been many improvements since our last visit in 2009.

Timber Frame Engineering Council Symposium, with:

- Paul Malko: Use of NTA, Inc.'s *SIP Engineered Design Guide*
- Cheryl May: to be determined
- Mark Gillis: Value engineering
- Tom Nehil: TFEC's wood grading training program
- Ben Brungraber: Bowstring trusses, a case study
- Dick Schmidt: Engineering the Nacodoches TFG project
- Helmut Stoll: European timber connectors, state of the industry
- Ron Anthony: Wood science topic
- Thomas Tannert: Design of connections and reinforcement with glued-in rods
- TFEC members: Interesting encounters (sharing 3-min. slide shows of interesting, complex, gorgeously simple, or patently bizarre encounters)

Three separate hands-on skill-building workshops for timber framers:

- Plumb-line Scribing, with Glenn Dodge
- L'Art du Trait (the Art of Geometry), with Compagnon and Guild member Patrick Moore
- Compound Roof Framing, with Steve Chappell

Other Thursday events include an hsbCad user's group meeting (tentative), an afternoon presentation for architects titled Timber Framing – an Age-Old Craft followed by a review of SIPs, and finally the Beer and Bull reception sponsored by the Timber Frame Business Council (TFBC).

Friday, August 8:

- TFG members' meeting
- Al Wallace: The basics of business contracts
- Jack Sobon: The history of American timber framing
- Marcus Brandt: Saltwater timber framing and shipbuilding
- Andy Palhof: OSHA and how to avoid costly mistakes
- Jan Lewandoski: Historic wooden trusses, form and performance
- George Brooks: Appraisal trends
- Arron Sturgis: Repairing timber frames
- Jane Griswold Radocchia: Geometry in colonial America
- Jim DeStefano: Timber framing for non-residential structures
- Steve Chappell: Using the Chappell square
- Andrea Warchaizer: Timber frame design for architects and others

Other Friday events include the longtime favorite Trade Fair and Mixer (sponsored by TFBC), outdoor demonstrations on shipbuilding, timber grading, portable sawmilling, and stone wall building (with Jonathan Bouchard), and our annual conference highlight: the members' Slide Show. Please take part by bringing ten digital photos of your work, on a CD or flash drive.

Saturday, August 9:

- David Bahler: From scribe to square, timber frame layout from Switzerland to the American heartland; also hewing demonstration
- Mark Gillis: Timber frame, the next generation (opportunities for young business owners)
- Eric Morley: Photography for small companies
- Clark Bremer and Mike Beganyi: SketchUp, its strength and weaknesses as a timber frame design tool
- Rudy Christian and Lisa Sasser: Saving the African house
- Joern Wingender: Ecosystem-based architecture
- Chris Madigan and Tom Page: Veteran voices
- David Leviatin: The harmony of construction
- Don Perkins: Barns of Maine
- Patrick Moore: Opportunities with les Compagnons
- Rick Collins: Estimating
- Jim Rogers: Model building
- Nat Crosby: An urban historic church
- Hundegger User Group Inaugural Meeting
- Paul Freeman, Tom Weller, Stuart White, Andrea Warchaizer: Collaborations (panel)
- Curtis Milton and Journeyworkers: Apprenticeship
- TFBC member meeting
- Benefit auction

This is quite a full schedule; we had a record number of presenters submit good proposals, and we've tried to accommodate them all. Ongoing events include the timber Olympics, joint busting, axe throwing, and Summerbeam Bookstore. Ben Jones is bringing a TimberKing portable sawmill on which we would like to demonstrate various jigs that people have developed for use with band mills. So far we have one for cutting curved braces. If you have another please let me ([Will](#)) know. You don't need to be present, but if you send me the design, photos, and specs, we could make the jig for the conference.

Sunday will begin with a tool swap and plan review, and finished with our celebrated plenary speaker, documentary filmmaker Ken Burns.

Dates of presentations are subject to change, so please follow conference updates on the Guild website (where you can get an up-to-date schedule and detailed descriptions of the individual presentations) and through your regular emailed Guild Notes.

Registration will begin in early May. See you in Manchester!



Archaic comfort systems, the future of energy efficiency

AL WALLACE

The history of radiant heating and cooling precedes the Roman Empire by a thousand years and involves a study of anthropology, archeology, and architecture. In fact, using radiation for human comfort within the built environment is as old as the structures themselves. The first known radiant heating systems can be traced back to the 11th century B.C. in China, while radiant cooling followed two millennia later in Mesopotamia. These systems provided superior comfort and indoor air quality with minimal environmental impact by employing low-temperature heating and high-temperature cooling. Modern designers mistakenly promote new, high-technology, complex methods that violate thermal lessons known for millennia. Space heating and cooling systems can be cost-effective and use minimal energy. To achieve these goals and transition to a lower-carbon economy, we must look to the past and a concept known as exergy.

Exergy is high-quality energy that is available to do useful work. Useful work is categorized as muscle work, mechanical or electrical power, and heat that is delivered or removed onsite. Heating our homes with grid energy lacks exergy, as the power provided is inefficient due to production means and distribution losses. Now consider the high exergy efficiency exhibited by rudimentary masonry heaters revealed in excavations of ancient inhabitants during the Neoglacial and Neolithic periods. Using wood fires and capturing smoke in stone-covered trenches excavated into the floor, low grade heat was employed over a period of time to create indoor comfort in very hard climates.

High-quality energy does not mean high-temperature heat. The most efficient systems operate at the lowest differential between the supply temperature and the desired space temperature. To be effective, these systems require high thermal mass for long periods. Thermal mass, as in the example above of the stone-covered trenches, minimizes ambient temperature fluctuations by storing and releasing energy slowly. A modern hot air furnace that continuously cycles on and off in a house constructed with lightweight framing is less comfortable than radiant heating with high thermal mass and moderate temperature heat. While modernists believe archaic is ineffective, low temperature differential heating and cooling comfort systems have been used effectively for centuries to attain high exergy.

Today, high mass heating and cooling systems are at the top of the hierarchy for comfort, energy efficiency, and indoor air quality. Using water as the heat transfer fluid, these systems are often referred to as “radiant floor heating or cooling,” “hydronic heating or cooling,” or “in-floor heating or cooling.” While the materials and heat sources for 21st-century implementations vary somewhat from earlier systems, the thermodynamic concepts are unchanged. In 1894, the German parliament

building the Reichstag was considered one of the most technically advanced buildings of its time. Its design incorporated high thermal mass, dehumidification, central heating, and summer cooling.

Leading manufacturers of radiant heating and cooling system components have been instrumental in promoting these technologies based on extensive history in the field. One such company with roots reaching back to the 17th century (as Wirsbo, the Swedish steel maker) is Uponor Corporation. Uponor today provides PEX-A (cross-linked polyethylene) tubing for radiant floor heating and cooling systems embedded in lightweight thermal concrete. While many contractors consider this technology innovative, the same methods have been in practice for over 70 years.

After WWII, the Bank of England incorporated chilled water behind plaster ceilings to provide cooling. In the January 19, 2004 issue of the *Reeves Journal*, a publication for plumbing and heating contractors in the western U.S., an article (“History of Radiant Heating and Cooling”) explained:

After the war, the Bank of England got a nice new hydronic radiant heating system that was installed under the direction of a fellow named Dr. Oscar Faber. Dr. Faber’s system used copper pipes embedded in concrete floors and plaster ceilings . . . to cool the building in the summer and heat it in the winter.

Of particular note is the reference to radiant cooling using tubes embedded in plaster ceilings. While radiant floor heating is recognized as proven comfort technology, radiant floor cooling (RFC) today is generally considered bleeding edge: inviting disaster from condensation. Four years ago, I wrote a *Scantlings* article on radiant cooling using geothermal heat pumps and radiant hydronic distribution (in floor tubing as described above). My company has since partnered with Uponor to develop residential RFC controls in Colorado in a 4,500-sq.-ft. home remodel in Aspen and a 10,000-sq.-ft. bed and breakfast inn in Woodland Park. Including my own home, we have since designed and installed over a dozen RFC systems.

The technology is well-proven. RFC is the technology specified for flagship projects including the Bangkok (Thailand) airport, the National Renewable Energy Lab in Golden, Colorado, and dozens of LEED platinum and net zero energy buildings. Most recently, I served as a consultant to the engineering firm providing the RFC design to net zero energy barracks housing U.S. Army Special Operations Forces at Fort Carson, Colorado. Despite these successes, RFC is anathema to most contractors. Where we have proposed this technology, builders have treated us at best

See Eco-Logic, page 6

Pemberton, from page 1

plan, and educational content ranging from 100-level basics to advanced topics. The very experienced lead group is Colin Stotts (Calgary, Alb.), Rob Geoghegan-Morphet (London, Ont.), Leon Buckwalter (Hinsdale, N.Y.), Steve Lawrence (Mill Bay, B.C.), Alicia Spence (Florence, Mass.), Lon Tyler (Sweet Home, Ore.), Fred Provost (Pemberton, B.C.), and Randy Churchill, project lead (Courtenay, B.C.).

Mike Beganyi worked with the town on an initial schematic design and refined it as the project began to take shape to include vehicle access and the 45-ft. clear span center trusses to keep the structure open and flexible for a variety of events. Robin Zirnhelt and ISL Engineering took up the baton to engineer the frame for a very heavy snow load and earthquake potential. (ISL has done a wonderful job refining the initial design and expanding on some of the the steel details to meet the unique challenges of building a giant, open roof in snow and earthquake country.) Andrew Preston is sequestered behind a computer monitor charged with making sense of it all in the form of cut drawings that are now under review. This frame is “working really hard” (Robin), so quite a few metal tension rods and fasteners are incorporated by necessity. Volunteer crew will get a healthy dose of West Coast timber framing reality. Four 45-ft.-long longitudinal

trusses are required, to be anchored with logs that form the top and bottom chords of the trusses. This vernacular variation provides a unique work station compared to the mill rule stations throughout most of the work site.

.....
The leadership team has been selected and is already deep in organizing fabrication stations, the raising plan, and educational content ranging from 100-level basics to advanced topics.
.....

TFG projects have always depended on the generous sharing of expensive, special heavy timber tools, and this project is no different. Thanks to everyone on the crew who can bring a big saw or mortiser to the site to make this frame happen. With all the big-dimension wood (lots of 12 x 12), we'll especially need big drill motors with various sized bits, extensions, and Forstner bits.

Thanks for everyone's enthusiasm for this project. I've received many comments thanking the Guild for arranging another nice project here in coastal B.C. that gives the timber framers of this province a chance to learn together and share the satisfaction of a complicated project done very well.

Eco-Logic, from page 5

with ambivalence and at worse with outright hostility.

These trade professionals fail to understand that, unlike modern air conditioning systems, RFC uses high thermal mass and high-temperature cooling in radiant floors. Its high-temperature cooling fluids range from 50 to 60°F, versus very low-temperature refrigerants in a typical air conditioner at 30°. The actual air temperature is within a few degrees using either approach.

With advanced designs, RFC can be installed in a manner that provides absolute comfort while using only 1% of the energy of a conventional air conditioner and 3% of the energy of a ground source heat pump. Known as passive radiant floor cooling, these methods directly use fluids from the ground heat exchanger (GHEX). The GHEX is typically installed for use by a ground-source heat pump (GSHP); with passive cooling, the pump does not operate. Similar to an ancient home with a stream running through the interior for cooling, a passive RFC system uses advanced controls to prevent condensation as fluids from a GHEX are circulated through the radiant floor infrastructure. A 200-watt pump can provide up to 60,000 BTU/hour of cooling capacity. This is sustainable as long as the ground temperature is below the required supply temperature. I have found that in mid-summer, the ground temperature will rise to a level requiring the use of the GSHP compressor to chill the water. At this point the GSHP is only twice as efficient as a traditional air conditioner. One final consideration for RFC is that dehumidification is required. RFC cannot remove the moisture from

the air (latent heat), so most systems incorporate an energy recovery ventilator, dehumidifier, or small forced-air heat pump that simultaneously cools and dehumidifies air.

We promote the use of a ground source heat pump as a cost-effective heating and cooling device to provide medium grade heat to hydronic heating and cooling systems. Radiant floor heating and cooling systems are more efficient than forced-air systems. Low wattage circulators are more efficient at pumping water than a fan is at moving air. Water has a higher density and higher heat carrying capacity than air, so it is a more efficient vehicle for distribution. A 1-in. pipe can deliver the same energy as an 18-in. duct. Water-to-air GSHPs deliver hot or cold air from one inside unit and no outside evaporator unit. Water-to-water GSHPs provide hot water for heating and chilled water for hydronic heating and cooling, or domestic hot water.

A GSHP uses one-sixth the energy of a high-efficiency boiler or conventional chiller, and has five times the efficiency of a domestic hot water tank heater, or three to six times the efficiency of a tankless water heater. When combined with radiant hydronic systems, GSHPs provide superior comfort and indoor quality, while emitting no combustion fumes, toxic gases, or greenhouse emissions. The exergy of this solution is very high when an on-site solar photovoltaic system is installed to offset the GSHP electric energy use.

Absent the smoke, one might argue that modern hydronic systems are comparable to the masonry heaters of antiquity. But when you consider the muscle exergy hauling wood, the cave man wins.

Grading course a success

WILL BEEMER

The first Timber Grading Training Course sponsored by the Timber Frame Engineering Council (TFEC) was held April 7–9 at the Heartwood School in Washington, Mass. This was a collaborative event: 19 architects, engineers, and timber framers earned 18 hours of Continuing Education Credits provided through the Timber Frame Business Council (TFBC), and the four instructors came from a variety of public and private entities.

Principal instructor and wood scientist Ron Anthony, of Anthony and Associates in Fort Collins, Colo., worked with TFEC member Tom Nehil to develop the curriculum.

Ron spoke primarily on the development of standards and rules for timber, the factors that influence wood behavior, and considerations for grading timber in existing buildings (*in situ*). Bob Falk, of the USDA Forest Products Laboratory in Madison, Wisc., talked about testing and engineering evaluation of reclaimed lumber and timbers. Matt Pomeroy and Don Pendergast, both from the Northeastern Lumber Manufacturers Association (NELMA), provided an overview of strength reducing characteristics in timber and then led a hands-on application of the grading rules to

See **Grading**, page 8



photos Will Beemer

NELMA instructor Don Pendergast explains the measurement of characteristics to determine grade.

APPRENTICE LOG

In the April Scantlings we profiled two graduates from the TFG Apprentice Training Program, as well as their employer. Now, here's someone from the other end—the program's newest apprentice. Andrew McFadden, Jr. is the most recent person enrolling in the TFG's apprenticeship program.

Andrew, a graduate of the University of Georgia, has studied woodworking at the North Bennet Street School in Boston, Mass., and timber framing at the American College of the Building Arts in Charleston, S.C. He has worked for Holder Bros. Timber Frames in Monroe, Ga., for four years.

Andrew attended the Guild's February training and assessment event in Knoxville, Ill., with his supervising journeyworker Whit Holder and enjoyed learning about timber management.

Andrew lives in Athens, Ga., with his wife Hollis and one-year old son, Fuller.



Gabel Holder



Most of the course participants and instructors.

Grading, from page 7

timbers provided by Guild members Dave Bowman, Jim Rogers, Phil Pierce, and Brad Morse. A written and practical examination ended the course with all participants receiving diplomas that add credibility when discussing grading and timber evaluation issues with building code officials.

It was particularly interesting to see the variety of ways to measure slope of grain, which along with knots is one of the major concerns in grading timber. Besides recording their diameters with a tape measure, knots can be more accurately measured using a “displacement” method that graphically represents the cross-section of the timber. NELMA’s potential role as a project consultant was also valuable to learn, as was Ron Anthony’s balanced common-sense approach to using the NELMA rules for *in situ* grading.

You can expect a more detailed report on the course and the lessons learned at the Guild Conference in August and in the pages of a future issue of *TIMBER FRAMING*.



Left to right, Dave Bowman, Kim Dugan, Tim Krahn, and Tom Nehil team up during the practical grading exam.

Phillip Pierce, P.E.
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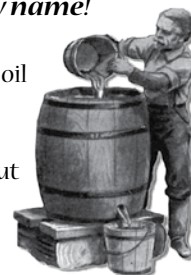
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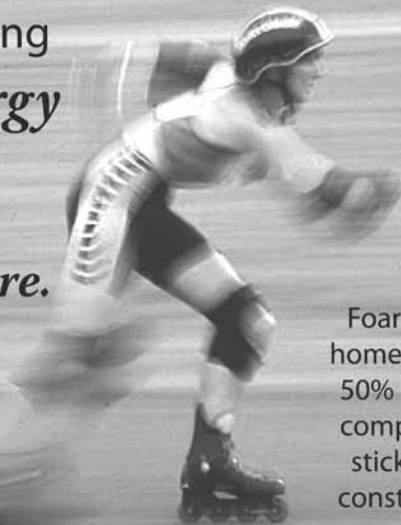


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These listings are for Guild workshops and meetings, were submitted by Guild members, or announce other relevant events. For more info on Guild events or to register for any TFG project, reach [Sue Warden](#), 855/598-1803.

Guild events

Pemberton Community Market Barn May 12–23, Pemberton, BC.
[Mack Magee](#), 401/441-5217.

Geometrical Rendezvous / Laurie Smith and Rick Collins
Jun 21–22, Knoxville, Ill., [Brenda Baker](#), 517/486-3629.

2014 Annual Conference Aug 7–10, Southern New Hampshire University, Manchester, N.H., [Brenda Baker](#), 517/486-3629.

other events

EcoNest Natural Building

Natural building apprenticeship boot camp May 19–Jun 27, Jul 21–Aug 29, Sep 8–Oct 17

EcoNest intensive May 26–Jun 12, Jul 28–Aug 14, Sep 15–26

Timber framing May 26–30, Jul 28–Aug 1, Sep 15–19

Nesting instinct seminar May 31, Aug 2, Sep 20

Clay-fiber walls Jun 2–5, Aug 4–7, Sep 22–25

Natural plasters Jun 6–7, Aug 4–7, Sep 26

Roof construction Jun 9–12, Aug 11–14, Sep 29–Oct 2

Japanese carpentry Jun 30–Jul 6

[Econest calendar](#), 541/488-9508.

Fox Maple Workshops

Natural clay enclosure systems May 27–31

Introductory timber framing Jun 2–7

Advanced timber framing Jun 9–14

Brownfield, Maine. [www.foxmaple.com](#)

Gibson Timber Frames

Build your own timber frame May 5–10

Perth, Ontario. [www.gibsontimberframes.com](#), 613/264-9021.

Heartwood School

Stairbuilding May 5–9

Hip and valley roof framing May 29–31

Eye-brow dormers Jun 2–4

Sketchup for timber framers Jun 5–7

Concrete countertops Jun 6–7

Build your own workbench Jun 9–13

Timber framing Jun 16–20, Aug 25–29

Scribed timber framing Jun 23–27

Traditional raising and rigging Jun 30–Jul 2

Comprehensive homebuilding Jul 7–18

Finish carpentry Jul 21–25

Cruck framing / Jack Sobon Jul 28–Aug 1

Carpentry for Women Aug 11–15

Converting trees to timber Aug 18–22

Compound joinery for timber framers Sep 8–12

Timber frame design and joinery decisions Sep 4–6

Advanced SketchUp Pro: Layout Sep 26–27

Washington, Mass. [Michele Beemer](#), [www.heartwoodschool.com](#), 413/623-6677.

Island School of Building Arts

Timber frame hammer bents May 5–30

Building with logs Jun 2–27

L'Art du Trait Aug 4–29

Gabriola Island, B.C. [www.isba.ca](#), 250/247-8922.

Jeremy Topitzer, Lyonsville Carpenters

House timber framing May 16–26

Colrain, Mass. [Jeremy Topitzer](#), 413/772-9227.

Long Creek Timber

Square rule timber framing Apr 27–May 3

Paxton, Ill. [Glen Vermette](#), 217/379-6666.

North House Folk School

Norwegian Grindbygg timber framing May 7–11

Basic timber framing Jun 5–9

Build your own timber frame—smaller frames Jul 12–20

Build your own timber frame—large frame Aug 15–24

Grand Marais, Minn. [www.northhouse.org](#), 888/387-9762.

National Association of Home Builders

Mega-Tour / Bensonwood, Coventry Log Homes, Epoch Homes
Apr 29 Manchester, N.H.

OUR Ecovillage

Earthbuilding extravaganza + permaculture design Jun 23–Jul 5

Intro to timber framing Jun 5–8

Earthbuilding 101 Jun 11–14, Jun 16–18, Jun 24–27, Jun 28–Jul 2

Intro to earthship and earthplaster Jun 14, Jun 29

Shawnigan Lake, B.C. [www.ourecovillage.org](#).

Robert W. Chambers

Hands-on log home construction May 5–23

Fairbanks, Alaska. [www.logbuilding.org](#).

Rocky Mountain Workshops

Seed to shelter—forest ecology and basic carpentry /

Chris Drake, Peter Haney May 24–31, Sep 20–28

Square rule timber framing—straight and curved members /

Skip Dewhirst, Chris Drake, Aug 17–23

Colorado State University Mountain Campus,

Pingree Park, Colo. Peter Haney,

[www.rockymountainworkshops.com](#), 970/482-1366.

Sobon/Carlson

Traditional timber framing / Jack Sobon and Dave Carlson

Sep 24–28, Hancock Shaker Village, Pittsfield, Mass. [Dave Carlson](#), 413/684-3612, or [Jack Sobon](#), 413/684-3223.

Trillium Dell Timber Works

Geometrical workshop (Appleton pavilion) / Laurie Smith, Rick Collins Jun 14–22 Knoxville, Ill., [Nicole Collins](#)

Yestermorrow Design/Build School

Natural building certificate course May 4–Jun 13

Strawbale design-build Jun 15

Waitsfield, Vt. [www.yestermorrow.org](#).