



## Building Communities

### Traditional Patterns

Living in the southwestern corner of Maine, one is surrounded by villages that were built from 200 to 300 years ago. When this area was first settled in the early 18th century, it was the western frontier. They faced hardships, but overcame them because they shared a common vision. It was through these hardships that their sense of community arose. Community is not a physical place, but rather, a way of being and of living—a way of connecting not only with other people, but also with the surrounding environment. It is actually out of this sense of community that successful communities are built. Villages and town centers emerged with little more than determination and the material resources available right from the land, coupled with a knowledge of ancient building patterns that worked in union with nature and the environment.

The rural New England villages built over two hundred years ago still function today as well as ever. They seem modern and appropriate, architecturally and functionally. They seem to be in rhythm and in context with the surrounding environment. I have always been intrigued by the way in which these villages were developed. I look upon them as an ideal model for sustainable community development. Not only because they still serve to the needs of the community, but also because they were not contrived, but evolved naturally from the surrounding environment. The builders couldn't run to Home Depot and pick up a supply of pre mixed mortar, but instead, had to make it by first incinerating sea shells to make the lime, slake it, then mix and build with it. No doubt, if they had a sawmill they surely would have used it instead of hewing. If they had a Home Depot, they would have flocked to it—consumerism is a seductive bride. Quite naturally, we are all seduced by it.

Abundance is a wonderful thing for those who share in it. However, the potential problem with material abundance is that it can often act as a veil, blinding us to other ways and approaches to living, building and to being. In its midst we're very often not able to see the forest for the trees. It is quite often illusory



*Olivier Garro, student from Finca la Bella, traveled on scholarship to Maine for the fall 2001 workshops.*

and fleeting. The tragic events of September 11th serve as a vivid reminder of this fact. On another level, the icon that this material abundance represents stands as a carrot dangling before the many who do not share in it. It becomes that for which they strive, often with tragic consequences because it leads to the devaluation of that which they do have.

Back in the 70's Nestle Corporation initiated a marketing campaign for its infant formula in rural Africa. It was touted as the 'modern way'. A free month's supply was given to anyone who wanted it. Many flocked to take part. The problem was, once weaned, the mothers had no money to purchase new supplies, or lacked appropriate facilities to sanitize the bottles. In its wake, hundreds of infants died from starvation and disease.

This is an extreme example, but it is a condition that is being played out over and over again in many third world countries, and even in this country. The fact is that only 1/6 of the world population shares in any part of the material abundance we recognize today. However, the icon is powerful. I'd lay odds that virtually every person on this planet knows about Calvin Kline jeans and Ford SUV's, but what greater abundance is there than the milk from a mother's breast? Or, to be able to build a house with the materials directly at your feet? The New England village builders tapped directly into this innate, natural abundance.

*"Community is not a physical place, but rather, a way of being and of living—a way of connecting not with only other people, but also with the surrounding environment."*

### Community Building Projects

The Community Building projects Fox Maple has been involved with in the past year—Finca la Bella, in Costa Rica, and Simit Buttes on the Pine Ridge Reservation in SD—have in a way, allowed us to step back in time. While these two areas are worlds apart geographically, they share one very common thing, poverty. Perhaps I should qualify this. As viewed from the mount of material abundance, it is poverty indeed, however, when this veil is lifted, when the barometer that gauges wealth and poverty as purely economic conditions is lifted, then one begins to recognize a universe consisting only of wealth and abundance.

## From the Ground Up

### GREENING THE BUILDING CODES

One of the first questions I'm asked from people interested in building with natural materials is, "How do I get approval from my local building department." In the absence of established code regulations my usual response has been, "present it in a professional way and try to educate them." For the most part this approach does work, but thanks to the efforts of David Eisenberg, director of the Development Center for Appropriate Technology (DCAT), this question may soon become a moot point. The following are some highlights from DCAT's efforts in 2001.

### Earthen Materials Task Force

DCAT leads an effort within the American Society for Testing and Materials (ASTM) E06.71 Subcommittee to develop standards for low-impact building systems. Eisenberg initiated and chairs a task group developing a set of standards for earthen materials, including rammed earth, adobe, and compressed earth block. These standards will assist people in getting code approval for building projects using these materials.

### Model Code Organizations

DCAT and the International Conference of Building Officials (ICBO) have been working together to integrate sustainability issues into national building codes, partnering on writing a building codes survey, working together with the U.S. Green Building Council (USGBC), and focusing on the integration of these activities into the International Code Council (the organization into which all three code organizations will merge in 2002). A regular column on green building in ICBO's *Building Standards* magazine will be initiated in January 2002. A great acknowledgment below.

*"We recognize that [issues of sustainability] are ultimately as important as many of the other aspects of the building code and the challenge lies in developing a way to facilitate the needed changes... We have come to recognize that we have a responsibility as world leaders in building design, technology, and regulation, to attend to the whole range of consequences of our building... We continue to be fully supportive and committed to making this change a reality and to working with DCAT to develop strategies to accomplish these goals."*—Jon Traw, Pres. & CEO of ICBO

*DCAT is a 501(c)(3) non-profit organization. To find out more about their efforts, and how you can support them, contact: DCAT, PO Box 27513, Tucson, AZ 85726-7513, (520)624-6628. [www.dcat.net](http://www.dcat.net) • [info@dcat.net](mailto:info@dcat.net)*



*Frame project at Finca la Bella, the beautiful farm, in San Luis, Costa Rica, last winter.*

To put it into a building context, the common new house in Costa Rica is built of masonry block, set upon a concrete slab, steel framed trusses and steel roofing—all commodity building products for the most part imported from the outside. These houses are modeled and constructed very much after the style prevalent in low to middle income houses built in Florida. A modern building icon set before the world. To put this in perspective, the wage for skilled labor in Costa Rica ranges from \$1 to \$2 per hour. However, the cost of concrete blocks, steel roofing and virtually all manufactured building products are set at international commodity rates, and therefore at par with the same materials if purchased in Florida. Gasoline costs 50% more than in the U.S. A Makita circular saw costs twice the amount than in the States, as do vehicles. It doesn't take much to realize that the cost of building a new home is far out of the reach of the average family. However, due to the icon a house of this style represents, most people strive for this type of home. Alternatives are not overly apparent nor promoted, so the majority accept the fact that a new home is simply out of reach.



*Finca la Bella community elder splitting bamboo wattles. Bamboo, a plentiful resource in Costa Rica, can be used for numerous building applications, from structural members; purlins and common rafters, to roofing.*

### **Developing new building patterns**

When working with economically handicapped communities, the challenge is to develop alternative patterns of building that focus not on the limitations, but on the underlying natural wealth of the community. Fox Maple's community building program operates on the fundamental premise that the universe consists only of wealth and abundance. The first order of business is to identify the intrinsic assets of the community. The second is to find ways to utilize these assets in a practical way.

### **People Resources**

Economically depressed communities tend to be so because there are few mainstream job opportunities. High unemployment equates to poverty. However, poorer communities tend to place a high value on the extended family, which in many cases includes the whole community. So, the number one asset of any economically handicapped community is people. Dwellings are perhaps the most highly valued commodity in any community, rich or poor. By engaging unemployed, or under employed people in the direct course of building dwellings as a community effort, value is realized directly, and in essence, a positive, alternative economy is quite naturally developed.

### **Natural Resources**

In order to successfully develop a micro, community-based dwelling industry, a thorough survey of the local natural resources is required. Studying the traditional and indigenous building style of the region prior to the onset of the industrial revolution will lend insight as to which materials will work successfully in the specific climate and environment. Most often these materials can be acquired and transformed into viable building components with little more than labor output by community members. Understanding that life-style patterns evolve over time requires an assessment of the current life patterns. From this, systems, designs and practical approaches can be created to develop new vernacular architectural patterns appropriate for the community, and within their capacity to carry out. Once a new pattern is developed, resources identified, and once there becomes a core group of community members fluent in the various aspects of the construction process, then this can be extended throughout the community, and eventually to other communities. This can create income directly by offering products and services to more affluent communities, or by creating additional training programs in surrounding communities. When there is little or no money in an economy, then barter and trade for services and material resources become de facto money. After all, money is only a means of exchange to acquire the physical and material things we need.

### **Finca la Bella**

The workshop at Finca la Bella, 'the beautiful farm', last winter proved to be a model for this type of development. Finca la Bella is a rural mountain farming community located in the shadows of the Monteverde Rainforest, near the village of



*Abraham He Crow receiving instruction in the fall 2001 Advanced workshop in Maine. Abe was one of two students from Pine Ridge to attend the fall workshop. The class project was an octagonal mini version of the Ceremonial Lodge to be constructed in Pine Ridge in summer 2002.*

San Luis, Costa Rica. The core group of 10 students were from the community of Finca la Bella, with an additional 10 students from outside the community joining the process (students from the States and afar). For the frame raising and enclosure nearly the whole community took part, young and old alike. A significant portion of the clay infill was carried out by the schoolchildren from the community elementary school, 8 to 12 year old's.

All the materials came from within 3 kilometers of the building site. The timber was harvested locally from stands of Honduran Pine (similar to ponderosa pine) that were planted as windbreaks over the past 50 years. The pines are not indigenous and have proven to have an adverse affect on the ecosystem. The policy nationwide is to eradicate this species and replace them with native species. This provided a ready (and long-term) supply of sustainably sourced timber. The majority of logs were milled into timbers 'freehand' with chain saws. Wood-Mizer Corporation graciously donated the use of a mill to the project that was used to mill boards and to resize some of the timbers. Thank You Wood-Mizer!

The wall infill was made up of clay and coffee husks. Coffee is the primary cash crop for the community and the husks were a plentiful waste product transformed into a



*Raising the rafters of the greenhouse frame at Slim Butte, on the Pine Ridge Reservation.*



*Carving staves for the wattle & daub infill for the frame in Finca la Bella.*

valuable resource. Clay is abundant, and came right from the site. The wattles were made by splitting bamboo into thin strips. Perhaps one of the greatest successes of the project was in the way in which the community embraced the process so completely.

#### **Slim Butte**

If there was ever a place to put Fox Maple's philosophical approach to community building to the test, Slim Butte is the place to do it. The community of Slim Butte lies in the southwestern corner of the Pine Ridge Reservation, within the boundary of the poorest county in the U.S. Slim Butte is *the* poorest community in the U.S. Unemployment is over 75%.

Slim Butte is the traditional home of Red Cloud, American Horse and Afraid of Bear, three of the Lakota's most notable warriors. Red Cloud's valor is quite well documented, but American Horse got his name because he was notorious for stealing the most horses from the U.S. Army. Afraid of Bear in Lakota actually means, 'bears afraid of him.' Though the poverty runs deep on the reservation, these people have maintained their spirit and connection to the old ways. The spirit that made them such great warriors over a century ago is still intact. It is this spirit that will enable the Lakota People to blossom once again in this century. I'm convinced, however, that this will happen only after they develop a new architecture that evokes the spirit of the People. The Government housing and dilapidated trailers only help to breed a sense of despair. The reservation is rich in natural resources. Our efforts on the reservation are focused on developing systems and approaches that will allow these resources to be utilized directly to provide dwellings and community buildings.

#### **Upcoming**

In the coming year we will be continuing the work we have begun in Costa Rica (winter 2002) and on the Pine Ridge (summer 2002). The spirit and commitment in both communities is infectious. The recent workshop in Kauai opened the doorway to another community building program with the indigenous people of Kauai. We're looking forward with great anticipation to further developing workshops around Community Building projects in the coming year. We hope you can join us.

*Steve Chappell*

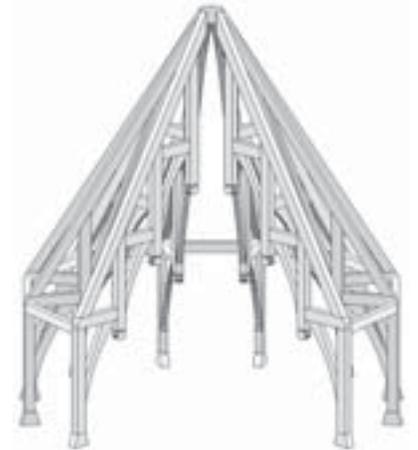
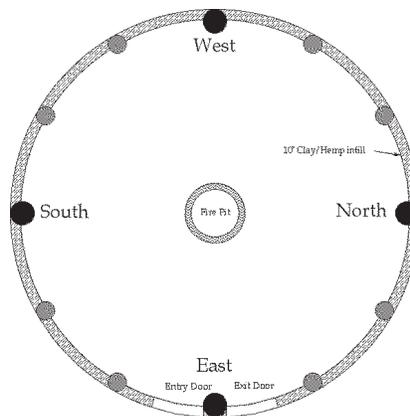
## Lakota Ceremonial Lodge Project Summer 2002, Pine Ridge Reservation, SD

Plans are currently underway for the construction of an Ancient Native American Church (ANAC) Ceremonial Lodge on the Pine Ridge Reservation next summer (the ANAC is independent of the Native American Church). The ANAC was chartered in the 1920's in Slim Butte as a way to protect Lakota religious freedom under the U.S. Constitution. Today, their ancient ceremonies have been preserved. The Lodge will be a 34 foot diameter, 12 sided timber frame, enclosed with hemp/clay infill. It will be the first permanent ANAC prayer house on the reservation. Heretofore, ceremonies have been held in a tipi in summer months, and relegated to government housing units in the winter. It's time for a permanent Lodge.

The timber frame will be cut with a core group of students from Pine Ridge who have

taken part in our workshops on the reservation in fall 2000, and summer 2001. Three students have traveled on scholarship to work and further study timber framing at our campus in Maine. The course project in the fall 2001 Advanced TF Workshop at FMSTB in Maine, was a mini version of the lodge (a 15 foot diameter octagon). This frame will be shipped back to the Pine Ridge Reservation next spring as a gift to Diane Crow Dog.

This project is a major undertaking and will require 3 month's work and a large community effort in conjunction with a formal workshop. Fund-raising is currently ongoing. For more information about this project, or to find out how you can make product or monetary donations, please contact Fox Maple. Dates for a two week workshop session will be posted soon.



*The footprint of the Lodge is in the pattern of the Medicine Wheel. The dominant stones are to the North, South, West and East, signifying the four directions. The 8 intermediate stones represent nature and all living things in groups of four which are the foundation of Lakota belief: the four things above the world; the sun, the moon, the sky and the stars; the four divisions of time; the day, the night, the moon and the year, etc.*

*The twelve main posts are resting on rocks, Inyan, which represent the primal source of all things—all that springs forth from the earth. And also, the twelve moons that make up a year. Each quarter represents the four seasons.*

*The frame is made of wood which represents all that grows upon the earth. The wall infill is made of clay and hemp. Clay signifies the earth, Maka, and all that comes from it. Hemp signifies abundance and the future of the Lakota People. Its blossom may well signify the fulfillment of the prophecy of the Seventh Fire, a time when a new Red Nation will emerge, a nation that would retrace its steps to find what it left by the trail, and flower once again.*

*From the Seventh Fire, there is the hope that an Eighth Fire would be kindled, an eternal fire of peace, love and brotherhood between the Indian People and the light-skinned people. The totality of the lodge, from the way it is constructed to the way it will be used, for many generations to come, represents the hope of the fulfillment of the Eighth Fire. It is Wakan Tanka. May this lodge be the spark that kindles this flame!*

## Kauai, 2001



*The workshop project in Kauai last November was a Japanese style garden house. Local kamani and ironwood logs were milled on site. The posts were scribed to round stones, and round and live-edge timbers were used extensively. We're looking forward to future workshops in Kauai, so keep posted for updates.*

# Workshop & Seminar Overviews

## Design Seminars

One day design seminars precede all of our multi-day Introductory workshops held at the school in Maine. Design seminars offer a great opportunity to gain a working understanding of all aspects of building a timber frame house, from basic design and joinery, to the completion of the home. With the help of slides, chalkboard and CAD drawings, we'll walk through all of the steps of building a timber frame home, and along the way, unravel some myths and solve some mysteries.

The design seminar explores the history and development of timber framing in addition to addressing problems which are likely to confront a contractor unfamiliar with contemporary timber framing. From foundation through completion, our focus is on assisting aspiring owner-builders in solving their own design problems, and allowing experienced builders to expand their expertise.



Compound roof framing is nothing more than a combination of simple right triangles. By first creating a visual image, then translating this mental image to paper using simple sketches, each triangle can be isolated, allowing the builder to determine its physical dimensions and angles through trigonometry. This approach allows even the most complex roof frames to be understood.

In the hands-on workshops we apply systems and theory to the construction of a hip & valley roof frame designed specifically for instruction.



out and cut by the students, allowing the opportunity to gain firsthand knowledge of joinery design, and the feel of cutting a timber frame in the traditional manner.

The workshop frame is designed specifically for instruction, combining a broad variety of joinery details, with close attention paid to setting up systems and approaches that will result in perfect joinery, every time.

## Advanced Timber Framing

For those who have some basic timber frame experience, our advanced workshop is the place to hone your joinery skills and expand your repertoire to include compound hip & valley roof framing. As with our introductory course, we pay special attention to creating systems and techniques which may be applied to any framing situation, with the same results every time. Perfection!

## Introductory Timber Framing

The best way to learn how to build a timber frame is to do it. In hands-on workshops, we do just that. The primary focus is on appropriate joinery design and layout, with particular attention paid to *perfect execution*. Each joint will be systematically laid

## What's Included, What's Not

All workshops at Fox Maple include light breakfast and a hearty lunch, a Fox Maple T-shirt, and a copy of *A Timber Framers' Workshop*. Camping is available on the grounds, and equipped campgrounds are close by. Local Bed & Breakfasts offer special rates to all students (about \$30 per night). A wide choice of restaurants and motels are within 10 miles. Complete info will be included in all confirmation packets sent to workshop registrants. Traveling workshops include the basic meal/T-shirt/Book package, and lodging info will be available upon registration. All meals are vegetarian.



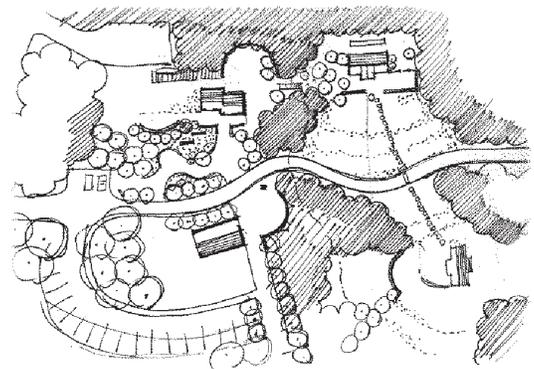
## The Library at Fox Maple

The Library is designed after a medieval Japanese minka. The walls are straw bale finished with clay plaster. The roof is thatch.

The timber frame was cut in our summer 1996 workshop. To receive our 38 page Fox Maple School Booklet describing the construction techniques used in all of the buildings on our new site, workshop and educational sessions, please send \$5 to cover postage and handling.

## The Fox Maple Campus

The FMSTB campus is situated on 40 acres of southeasterly sloping wooded land on the Corn Hill Road, in West Brownfield, Maine. The rural location of the site provides a wonderful space to develop an infrastructure made up of natural and traditional building models. At the same time, providing hands-on building projects for our students to gain insight and experience. The evolution that has taken place since the ground breaking in April, of 1996, has been exciting, if not miraculous, in its unfolding. We look forward to many exciting workshops in 2002, and hope you can join us as a participant, or as a visitor.



# Fox Maple Workshop Schedule 2002

## Timber Framing at FMSTB

### Introductory Timber Framing

**Fox Maple, Brownfield, Maine—May 13-18, 2002**

The frame project will be a traditionally joined timber frame. Joinery, design and execution will be the primary focus, culminating with the raising on Saturday, May 18. This workshop is hands-on and intensive, Limit 20 students. Tuition: \$725

### Advanced Timber Framing

**Fox Maple, Brownfield, Maine—May 20-25, 2002**

The theory and mechanics of hip and valley roof framing are covered in-depth in this 6 day, hands-on workshop. Previous timber framing experience or Fox Maple Introductory Course required. Limit 10 students. Tuition \$725

### Combined Intro & Advanced Workshop

**May 13-25, 2002**

A comprehensive 2 week session including both Introductory and Advanced Timber Framing, back-to-back. This course is required curriculum for those wishing to apply for the Fox Maple Apprenticeship Program. Tuition \$1,350.

## Traveling Timber Framing Workshops

### Monteverde, Costa Rica

**February 23 - March 9, 2002**

The workshop in Costa Rica last winter was a wonderful success and a great experience for all involved. This winter we will be returning to continue our Community Building Program. This winters workshop will be held in cooperation with Monteverde Institute (MVI). The project will be a barn at the community gardens at MVI. Tuition includes home stay lodging, all meals and transportation to and from San Jose. This promises to be another great adventure, we hope you can join us for a rich cultural experience.

The dates account for arrival in San Jose on the 23rd. Lodging in San Jose that night is included. Transportation to MV will be on the 24th. The course instruction begins on the 25th. The course will end on the 8th, with transportation back to SJ on the 9th. All inclusive in the tuition. Register before Jan.10th and receive a \$100 discount (\$975.) Tuition \$1,075. Limited to 10 students.

### What's Included, What's Not

All workshops at Fox Maple include light breakfast and a hearty lunch, a Fox Maple T-shirt, and a copy of *A Timber Framer's Workshop*. Camping is available on the Fox Maple school grounds, and equipped campgrounds are close by. Local Bed & Breakfasts offer special rates to all students. A wide choice of restaurants and motels are within 10 miles. Complete info will be included in all confirmation packets sent to workshop registrants. Traveling workshops include the basic meal/T-shirt/Book package. Lodging info will be available upon registration.

For more information about these and other workshops and special events, please contact us. You can also check out our web site. This site lists all current events, and complete information about each workshop, what to bring, tools and tool recommendations, and more. Check it out!

**www.foxmaple.com**

email: foxmaple@foxmaple.com

Register on-line at: [www.foxmaple.com/Registration.html](http://www.foxmaple.com/Registration.html)

### JQ Update

For all of you wondering what's happened to JQ, no you haven't missed anything. The last issue published was JQ38. Long delay, we know, but alas, JQ39 is in the works and will be mailed in January.

The past 2 years have been a period of intense output and growth at Fox Maple. Our workshop projects have dramatically expanded in scope and the final work on our campus required focus. Maintaining a regular publishing schedule has been difficult. We anticipate a more regular schedule for 2002. Thanks for your patience.

## Airville, Pennsylvania

**April 21-27, 2002**

This workshop is being sponsored by Henry Burden, a participant in several Fox Maple workshops over the past few years. The project will be a three bent oak frame, including hammerbeam bents. Tuition: \$725, 6 day session. Limited to 15 students

## Oskaloosa, Kansas

**June 21-27, 2002**

This workshop near Lawrence, Kansas, is sponsored by Phil Holman Hebert, graduate of the Telluride, 2000 workshop. The project will be a small cottage designed to be enclosed with straw bales and clay infill. The frame will include hammerbeam, arched brace and king post bents that will include some round logs. Tuition: \$725, 6 day session. Limited to 15 students

## Lakota Ceremonial Lodge Workshop

### Pine Ridge Indian Reservation, SD

**July 2002**

We still need to confirm the final dates for this workshop, but the project is set—a 34' diameter, 12 sided Ceremonial lodge. This is an aggressive project that will include both Intro and Advanced timber framing. A two week Intro and Advanced workshop will be scheduled. We built small scale version of the lodge in our fall 2001 Advanced TF workshop (15' diameter octagon). Keep posted for updates and final schedule of this exciting workshop project. 12 day session \$975. Limited to 10 students

## Natural & Traditional Building Workshops

**Thatching - April 29-May 4, 2002**

**Clay Building/Infill Systems - June 3-8, 2002**

This is a partial listing of N&TB workshops at FMSTB in 2002. The final and complete schedule of workshops will be posted on our website as soon as they are confirmed. To receive information and updates on these additional workshops in 2002, please write, or call us at 1-207-935-3720.

**Check our website for the latest updates: [www.foxmaple.com](http://www.foxmaple.com)  
email: [foxmaple@foxmaple.com](mailto:foxmaple@foxmaple.com)**

## Workshop Registration Form

Please reserve space for \_\_\_\_\_ person(s):

- Six Day Intro T.F. - \$725. Dates: \_\_\_\_\_
- Six Day Advanced T.F.- \$725. Dates: \_\_\_\_\_
- Combined Intro & Adv T.F.- \$1,350. Dates: \_\_\_\_\_
- Six Day T.F. Airville, PA - \$725. Dates: \_\_\_\_\_
- Six Day T.F. Oskaloosa, KS - \$725. Dates: \_\_\_\_\_
- Six Day Clay Building Workshop - \$725. Dates: \_\_\_\_\_
- Six Day Thatching Workshop - \$725. Dates: \_\_\_\_\_
- Costa Rica TF Workshop - \$1075. Dates: Feb. 23-March 9, 2002
- I have enclosed a 50% deposit for each participant. I understand that my deposit is non-refundable if I do not attend.
- Family Discounts:** Save 15% when 2 or more individuals from the same household register for a workshop.

Name(s) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

M.C.  VISA # \_\_\_\_\_

Exp. date \_\_\_\_\_ Phone # \_\_\_\_\_

Signature \_\_\_\_\_ Specify T-shirt size \_\_\_\_\_