



**with Mark Hanf**  
**Thursday April 10, 2014**  
**New York City**  
**Academy of Sacred Geometry**

The first time I read the Tao Te Ching, I was on a solo backpacking trip on the Appalachian Trail during a college break. I couldn't have known it then, but looking back, it was a defining moment in my life. After reading the paradoxical verses of the Tao that first time in that AT shelter I clearly remember feeling a balance of both deep body understanding and utter mental confusion! That night was the first time I ever experienced the conscious direction of chi flow within my body. Immediately I felt a profound connection to Nature and the entire Universe and knew that I needed to give the Tao deeper reflection.

I found an audiobook of the Tao Te Ching and listened to it on headphones whenever I was working. I was an Art major at Davidson College and at times, I would listen to it on a loop for hours while I designed and created my senior thesis installation. Steven Mitchell called the Tao Te Ching a "subtle and kaleidoscopic book." I have read the Tao Te Ching hundreds, if not thousands of times. EVERY time I listen to the verses I hear it in a slightly different way, see a different facet of the subtle jewel, and perpetually understand its deeper meaning. The radical simplicity and depth of the words have gradually changed my perspective and thus my life.



The Taoist ideal of harmonizing with nature and its forces became my guiding compass and ultimately I was led back to the mountains of NC near where I first read the Tao and led to invest in land that borders the national forest. While still in school, I combined my love of art, design, geometry, sculpture, and science and began researching radically "green" architecture.

Ultimately I designed and built an off-grid, passive solar, earth-sheltered house with rainwater catchment and recycled materials. The final design incorporates golden ratio or phi proportions, as well as the yin-yang.

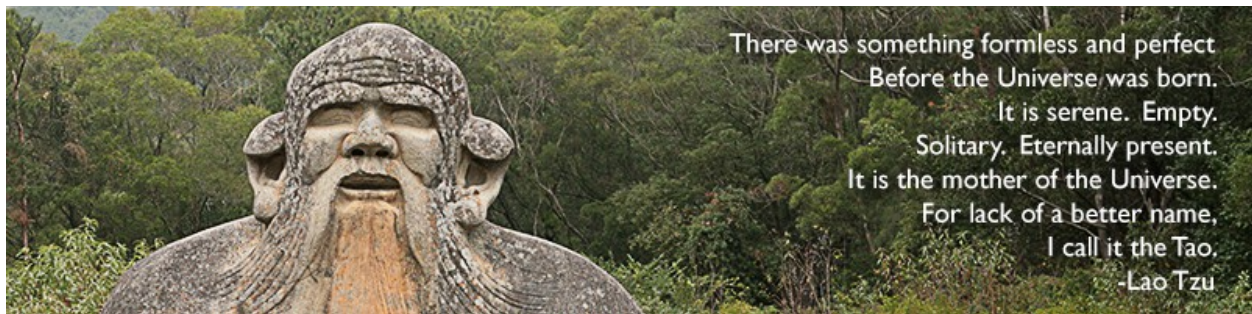
While camping on the forested land during the first nine months of construction of the house, I began to experience geometric images in my meditation. The **Tao of Geometry** is based on the dense geometric information that revealed itself at that time and my work over the last 14 years to “unpack” it. What I understood about the Tao conceptually and philosophically was presenting itself visually as 2D and 3D fractal geometries related to the Yin Yang. I filled notebooks with the patterns that continually emerged from my compass drawing. Immediately I knew that the in-form-ation was important because I began to understand profound connections that it had to other fields of science. This day-long workshop will explore the ancient archetypal symbol of the yin-yang as a multidimensional illustration of the mysterious and profound forces of nature through animated multimedia presentations and hands-on compass drawing. It will also allow participants to feel these living geometries within our own bodies and discover our beautiful, geometric connections to the greater whole.

*As an artist, as well as a geometer,  
I assure you that this workshop is perfect  
for those who love Mathematics, as well as those who are intimidated by it;  
for those who love drawing, as well as those who are intimidated by it,  
and everyone in between...*

*Please join us!*

*Mark*

**The Tao of Geometry**  
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Tao is most often translated as “way” or “path” and in this one-day workshop our path leads towards the center of Chinese Geometry. Deep within the ancient art and science

of Geometry lies a beautiful and mysterious system of forms that has fascinated philosophers and sages from all spiritual traditions since antiquity. Participants are invited to access the golden key of Sacred Geometry and unlock secrets encoded in the art, architecture, science, and sacred symbols of China. This multifaceted class integrates hands-on drawing with dynamic multimedia presentations and invites students to explore the harmonic balance of Heaven and Earth, Form and Emptiness, Science and Spirituality, Mastery and Mystery, Yin and Yang.

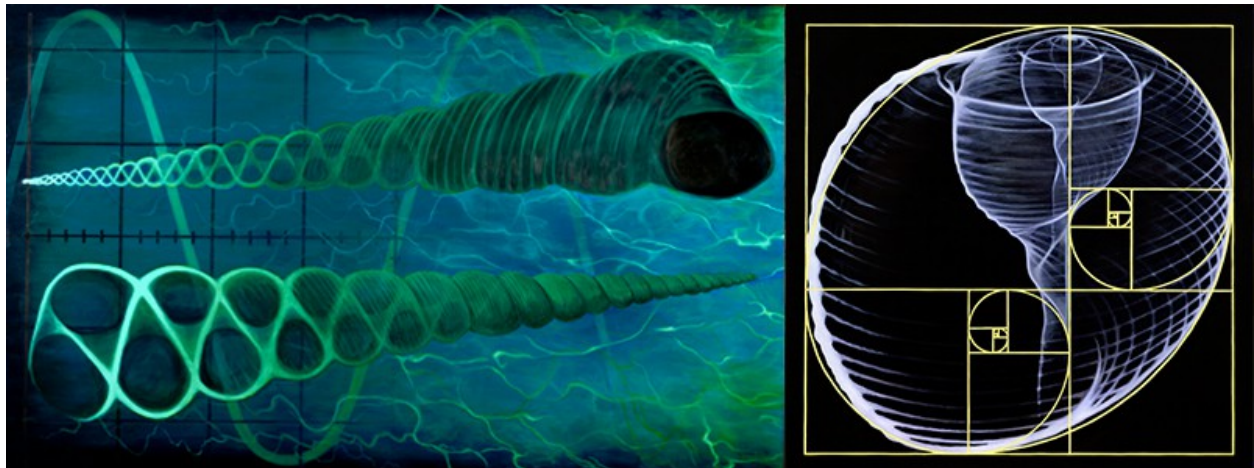
## Yin Yang Fractal

Being and Non-Being create each other...

-Lao Tzu

The Tai Chi, known in the west as the Yin Yang, is a familiar symbol that embodies the philosophy of non-dualism or complementarity. Its key principles of polarity and harmony, as well as cyclic and wave motion are reflected throughout the cosmos. We will explore this archetypal geometric form found throughout Chinese culture through a unique multi-media presentation and discussion.

## The Vortex and the Wave



Harmonize the light,  
assimilate the world.

This is called mysterious sameness.

-Lao Tzu



By meditatively drawing variations of the Yin Yang with the geometer's tools we will explore the principles and pathways of Fractal, Toroidal, and Vortex Geometries and how they map the physical phenomena of Electromagnetism, Chi, Gravity, Biology, and Human Anatomy.

## The Circle and The Square

Just remain at the center of the circle  
And let all things take their course.  
-Lao Tzu

It is said that the Great Square has no Corners.  
-Lao Tzu

One of the oldest puzzles in human history is a called "squaring the circle". This problem of constructing a square and circle that have equal areas has fascinated mathematicians all over the world for millennia and lead to the discovery of the elusive number pi. In modern times, "squaring the circle" has come to represent something that appears logically impossible. Like a Zen koan, this level of paradox can invite the mind to transcend the rigidity of logic and arrive at a deeper level of meaning. With Heaven as Circle and Earth as Square, this ancient riddle expresses an underlying aspect of the whole of Chinese cosmology that points towards the relationship of Emptiness and Form; Spirit and Matter.

*Participants will need a notebook, drawing compass and straightedge.*

## About Mark



Mark Hanf is an artist and educator who has been exploring the nexus of science and art his entire life. In 1995, he was nominated to attend the NC Governor's School in Science, Art, and Mathematics, and ultimately chose to study Fractal and Non-Euclidean Geometry. Mark went on to attend Davidson College, where he continued to study Math and Science through astronomy, chemistry, and physics, and integrated these topics into his art. He received a BA in Visual Arts from Davidson College in

2000, with a special focus on Science, Religion, and Environmental Architecture. While still in school, he researched, designed, and drew blueprints for a passive solar, off-grid, earth-sheltered home that incorporates key elements of geometric design like the golden ratio, as well as rain water cisterns, recycled materials, solar panels, and a bio-diesel generator. After graduating, Mark interned with Michael Reynolds at Earthship Biotecture in Taos, New Mexico and then returned to western North Carolina to build that home with his family.

From 2001-2007, Mark taught at the Rainbow Mountain Children's School in Asheville, NC, where Multiple Intelligence theory and a holistic approach are blended to create an interdisciplinary, experiential, life-long learning environment. He taught middle school math and science and developed a unique curriculum that integrated environmental science, astronomy, cosmology, synergetic and ancient geometry.

In 2006, he was a participant in the Design Science Lab in Asheville, a ten-day international think-tank sponsored by The Buckminster Fuller Institute and the United Nations that addressed global sustainability with an emphasis on energy, environmental, health, and educational issues. Since then he has worked with the Buckminster Fuller Institute (BFI) and a team of educators and multimedia artists to produce Aboard Spaceship Earth (ASE), a 21st Century Global Studies program that integrates Geography, Science, and Geometry. For the past 3 years he has served as director for ASE and has been designing the curriculum, as well as producing tools and materials. He has presented Aboard Spaceship Earth programs locally and regionally to a wide range of groups including elementary and middle schools, college students, and adults. He has also produced a range of events in collaboration with the Black Mountain College Museum + Arts Center and The Education Committee of the BFI, sharing the work of Buckminster Fuller with "design scientists" of all ages.

In 2008, Mark co-founded Geometry of Nature, LLC, and has served as its creative director ever since. He has presented numerous lectures, classes, and hands-on workshops in collaboration with a variety of schools and organizations including Sidwell Friends School, The National Association of Independent Schools (NAIS), the Washington DC Public School System (DCPS), UNC Chapel Hill-World View, Davidson College, The Global Institute for Sustainable Technologies, (NCCAT) and the American Institute of Architects (AIA). Mark is on the faculty of the Academy of Sacred Geometry along with some of the world's leading teachers in the field. He is also on the faculty of the New York School of Feng Shui, where he regularly teaches a course entitled The Tao of Geometry that explores the relationships of Chinese sacred symbols and fractal geometry.

Since 2010, Mark has been partnering with MuseCycle Media to produce a range of digital educational products including STEM animation and videos (science, technology, engineering and mathematics), multimedia lesson plans, and iTextbooks for iPad.

Mark is also a professional artist and creates work that weaves together his wide range of interests including science, math, and history. His paintings examine Nature's architecture and symmetry and recently he has been using CNC (Computer Numeric Controlled) routers and lasers to create a body of sculpture and prints that explore fractal Geometry. His studio is part of Marshall High Studios, a complex located on a tiny island in the French Broad River in the Mountains of NC.