Cover Photo: Snow sculpture by Dan Schwalbe, Richard and Beth Seeley, and Stan Wagon, based on a David Chamberlain sculpture. Photo, Dan Schwalbe

Articles

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For inclusion in Hyperseeing, authors are invited to email articles for the preceding categories to: hyperseeing@gmail.com

Articles should be a maximum of four pages.
For several years our Minnesota-based team has taken part in the annual snow sculpture competition in Breckenridge, Colorado. The core of the team is Dan Schwalbe and Stan Wagon; over the years they have welcomed sculptors Helaman Ferguson, Robert Longhurst, Bathsheba Grossman, Brent Collins, and Carlo Séquin to the team. For the January 2007 event they asked David Chamberlain to try his hand at this unusual sculpting medium, in the hope that he could modify one of his pieces to suit the scale and the demands of the block that the town provides. David’s work is abstract, but with a connection to familiar forms that we thought would appeal to the public and the judges at this event, and also with a connection to geometry, which has been the theme of our team ever since we started in 1999.

David’s work is an intriguing overlap of natural organic and geometric forms, each with a serious foundation in the mathematics of form and space. However, his work also represents an attempt to go beyond the formulas and regular physical dictates of dimensional geometry: to stretch that which is produced by the mathematical mind into something newly created, adapted, and influenced by the emotional psyche. Music, he feels, is the obvious analogy: a compositional form based in physical principles that evolves, artistically, into a highly expressive and emotional language.

He admits that his work can be considered a reaction against architecture (a field in which he holds two degrees) in that we find little symmetry and few planes, parallel lines, or right angles — the all-too-predictable elements of geometry. He prefers instead to work more poetically and whimsically, to trust in a personal esthetic of playful proportion, curvilinear surfaces, spiral edges, and transitional forms — to write beyond the score.

The event attracts teams from around the world, in part because of the superb quality of the snow blocks. The 12-foot high blocks are made from snow that is manufactured at the local ski area. This means that the snow is extremely dense: one needs very sharp tools to cut into it (power tools are not allowed). The sculpting teams are well taken care of, with all meals and lodging provided. Once the sculptures are complete, after four-and-a-half days of work, thousands of people walk through the site to view them firsthand.

We felt that one particular piece that David had created in ceramic (a similarly white, tender, and granular medium) would be a perfect
encountering sensual and elegant surfaces in the process, and then returning to its familiar home. This reminded Stan of the theme-and-variation concept, so we used Cool Jazz as the title. Geometrically the shape is a torus derivative, and one of the bounding curves forms a knot variation on the torus. One intriguing aspect is that each of the large spherical bulges on the lower end, as one follows them around, becomes the inside of the opposite bulge. For us, these spherical parts played a large role as anchors for the central loop.

As our team, which included Rich Seeley as sculpting member and Beth Seeley as the fifth member, who can advise and help with snow removal, but cannot sculpt, gathered

basis for a design in snow. He called it Embouchure, and it suggests, among other images, a stylized treble clef. It changes character with varied viewing perspectives: in one direction it is a recognizable musical icon, but from other viewing directions one sees how the upper reach of the shape extends in unexpected, even surprising, ways. In short, it can be viewed as a topological escape from Flatland: as one circles the work one imagines the treble clef visiting the third dimension,

Figure 1. Each team starts with a 20-ton, 12-foot high block of specially made snow. (Photo: Rich Seeley)
in Colorado before the event, we worked on a five-foot high practice block that Stan had built. It used natural snow, which is drier and much more fragile than the dense snow of the large blocks. We got the rough shape formed but, perhaps because we worked too quickly, we did not get the inner loop even close to being right; a slight nudge caused most of the structure to collapse. As in past years, we had learned a valuable lesson about the care needed in visualizing the whole composition, even if we learned little about exactly how strong the final shape was.

We started on Tuesday, using our tried-and-true tools of ice-fishing drills and ice saws to cut the 20-ton block down to the rough form right on schedule. On Wednesday night Dan made a critical announcement. Perhaps thinking of previous years when we had made sculpting errors, he noted that, “Our work in the next six hours of sculpting will determine success or failure.” His point was that this stage was critical and we would not be able to recover from any error.

We knew that Dan was right, so we spent the first of the six hours, Thursday morning from 7:30 to 8:30, doing absolutely nothing! Instead, we had a spirited discussion of whether we should abandon our plan of a 10-inch high base. We decided the base had to go, since it served no purpose and its elimination would reveal much more of the sculpture. Of course this meant that some aspects of the shape had to change, but David was quite good at visualizing such changes and communicating them to us. Jazz implies improvisation and we did indeed improvise in some large and small ways as the work progressed. Our work in past years was seriously restricted by the symmetry that mathematical shapes often have. This year there was no rigorous symmetry in the design; while the geometry did provide
some restrictions, we could thicken or move various components as we wished, which was challenging, but also liberating.

The carving out — very slowly and carefully — of the correct topology on Thursday and then the smoothing of all curves and surfaces on Friday went well. But the moment of truth was yet to come. We retired for a few hours sleep at 10 p.m. and returned at 4 a.m. on Saturday to do some final polishing before dawn (this is the one night that teams are allowed to work through the night). Our plan was to remove two struts that we had left in place to support the delicate structure while we worked it. The sculpture now looked quite beautiful, but we had to remove the struts. Would it stand, or just collapse in a heap?

In optimistic moods we think that snow of this density is just about as strong as wood in tension or stone under compression. This shape would be relatively stable in those materials, so why not in snow? Yet snow does have some delicacy and we have seen some fatalities over the years — sculptures that collapse within hours of completion. Indeed, this year there was one failure when the home team from Breckenridge balanced a giant snowball on a delicate sine curve. It looked good, but crashed after about six hours as the ribbon was not massive enough to support the weight. And we suffered a fatality of our own in 2003 when “Whirled White Web” fell apart a few minutes after the judges completed their evaluation. We were fortunate, as the work was deemed good enough for second place despite the disintegration.

But from a pessimistic view we had plenty to worry about. We had very little negative curvature (saddle points) in this design, and we believe that negative curvature helps to stabilize a delicate structure. And we had the opinions of other sculptors that our piece would surely stand, but also some who said: “Why risk it? It’s beautiful now and it would be such a shame if it just crashed.” Our main concern was the weight of the central loop. It was supported nicely by the two anchoring bulges, but there was a lot hanging right in the center. Still, temperatures were nicely low.
(the snow a few inches inside the structure varied from 14 to 18 degrees F.), and we wanted to go for it.

At 7 a.m. (the event ends at 10 a.m.) Dan took his ice saw to the first of the two struts, directly under the inner loop. There was no pressure on the saw whatsoever. “That was anticlimactic,” he observed. We then spent a half-hour smoothing out the surfaces and prepared for the final cut of the horizontal strut, which tied the loop to the smaller of the two bulges. Stan took the saw to it and after a few strokes there was a loud cracking sound. His heart stopped as he backed away, but yet nothing moved! Switching to a key-hole saw he gently sliced through and still there was no pressure on the saw. Once the cut was complete, it seemed that we were home free. But we waited for a half-hour to see if the small slit would close up. It did not. Great relief! It appears that there was a little tension in our spring, and the release of the horizontal strut caused a micro-adjustment in the mass of snow.

We very carefully continued with our finish work, quitting at 10 a.m. and feeling very pleased. We had sculpted a sophisticated and pleasing form, with clean lines, great white sheets, and a musical message and theme. The large sweeping surfaces look especially good in snow. The town leaves the sculptures up for two weekends, and our piece changed not at all after nine days. Traditional realistic sculpture with fine detail suffers in the sun, as such detail can only lose clarity. This is one reason why we feel that geometric sculpture works very well in this medium.

The five judges liked our work, awarding it second place among the 14 entries. We were pleased, but the real reward is looking at the finished piece, knowing that we stretched ourselves artistically to accomplish in four days something even better than what we had been dreaming of for almost a year. And there is also the excitement of working in three dimensions with a medium that is unique in sculpting.

One of the observers put it best: he has visited our work every year and commented that our mothers must have been scared by a right angle when we were born, as our team seems to have a fear of such things. Basically correct. That is, we start with a perfect cuboid, and try to shape, round, bend, and perforate it so that it exemplifies smooth flow. In short, we like to bend snow into an elegant form, and that means no right angles.

For more information on the sculpture: http://stanwagon.com
For more information on the work of David Chamberlain: http://chamberlain-studios.com

Figure 6. The band of sculptors after a hard work week.
From left: David, Stan, Beth, Rich, and Dan
Paper is an exciting medium. Originally I made paper models which were ‘solid’ in nature or formed from individual pieces placed together. Rarely were they connected by cut slits and gluing was the main method for assembling them.

I discovered John Sharp’s Sliceforms: Mathematical Models from Paper Sections during the second year of my Fine Art and Photography degree. Having made a couple of the models from the book I was inspired to create a contour sculpture of Stanton Moor, Derbyshire, for a degree project. This model was further photographed to produce 2D images with exceptional 3D qualities.

I realised the method had great artistic merit and was rewarded by displaying Streonshalh (Figure 1), at the Royal Academy summer show in 2004. A pure white sculpture, using lightly textured paper, of Whitby Esk valley incorporating the sheer cliff edge and part of the sea bed.

I have experimented with pure white and coloured papers and found they both have their own qualities, but lighting is particularly essential for shadows on pure white pieces. This is especially important when making photographic imagery from them. Initially I tried coloured lights to introduce hues but now prefer to use Adobe Photoshhop to achieve this.

Coloured pieces present new challenges. Even subtle shades produce significant colour shifts when moving around the sculptures. Optical shifts also occur when adjacent parallel slices are of different colours, introducing extra shades and colour mixes throughout the model.
When high contrast paper colours are utilised they are particularly dramatic - black and pale coloured structures flicker from dark to light depending on the viewing angle.

I have experimented with thin coloured plastic sheets. A stained glass effect is produced, especially when light passes through, throwing coloured shadows and multiple colour hues. These effects are to be explored further in the future.

Because the models are so flexible (and can in fact be folded flat), they are sometimes enhanced by changing the normal 90 degree cross sections to more acute and obtuse angles. Beith (Figure 2) is always displayed at around 75/105 degrees but my models are often photographed using different angles. Viewed through the camera lens they create their own individual mini landscapes.

These photographs are manipulated with Photoshop and printed in limited edition runs on archival paper using archival inks. This process is time consuming but I find it artistically rewarding. Curved and irregular structures produce particularly interesting imagery (Figures 3 and 4).

Both paper sculptures and prints were shown for first time at an art fair at Alexandra Palace in November 2006 and were favourably received by both artists and the public. In particular Landscape of the Soul (Figure 5) was highly praised.

I have found Sliceforms an ideal method for creating paper sculpture. They produce very tactile structures that people always want to touch, especially when they see the sculpture form from the closed state to fully open. Artistically they permit me to play with colours in a way a solid model would not allow, having

Figure 2 Beith, 19.7in x 15in x 3.2in
4 faces to interact together, 2 each side of the paper. Although they appear to create positive images it is the brain that interprets this form from the skeletal cross-sections.

I now plan to experiment with stiffened delicate papers, plastic and wood and develop wall-mounted structures. Some of John’s latest work with angled sections has also encouraged me to experiment with non-planer pieces. I would also like to see a piece cut in metal, particularly into a large-scale sculpture for an outdoor space.

Gail Barlow has long held a fascination for paper and paper sculpture. She graduated in 2003 with a first class honours degree in Fine Art and Photography. Following her degree she moved into a live/work unit in the East End of London and continued to make paper sculptures using the Sliceform method.

Although she considers the paper sculptures as art forms themselves they are also explored further by taking the 3D aspects of the sculptures into 2D enhanced photographic prints. They are in limited editions, printed with archival inks on archival paper. Examples of her work can be seen on: www.gailbarlow.com (http://www.gailbarlow.com). Contact: gailbarlow@aol.com

Figure 3 Biorhythm 1
14.2in x 9.8in

Figure 4 Cornfield
14.2in x 9.8in

Figure 5 Landscape of the Soul, 13.9in x 8.9in x 4in
I started exploring Sliceforms around 1990 when I was looking for some 3D work to teach paper sculpture. Although the technique goes back to the nineteenth century, no one seemed to have explored the possibilities fully. I only knew of one artist, Wendy Taylor, who had used the method in a sculpture in Glasgow. The paper sculptor Masahiro Chatani also produced some artistic work in his Origamic Architecture books. I then wrote a book with some models to cut out with the title Sliceforms. This has influenced a number of artists and the name Sliceforms has now become generic.

My interest was in looking across the mathematics and art boundary both to express the aesthetic aspect of mathematics, but also to be creative with mathematics too. So the Tetrahedral surface is the surface where the sum of the distances from any point on the surface to the four points of a tetrahedron is a constant. The Crosscap surface is my interpretation of the surface which is a representation of the projective plane. I also used equations as my tools to produce surfaces like the Crater. Whereas most Sliceforms are made of orthogonal slices, I have also sliced at angles as in the Pyramid section.
If you search the web for Sliceforms, there are many hits but no one has quite extended the form artistically as much as Gail Barlow. Whereas I am coming from the mathematical direction, she is approaching it from an artistic background. I have been particularly interested in the appearance of the models when they are closed. The Flattened sphericon is a good example. Gail, has taken this aspect a stage further and used photography on the models and then worked in Photoshop to produce some more stunning effects.

John Sharp: sliceforms@yahoo.co.uk
We will first discuss the minimal surface in Figure 1 and then consider a related surface sculpture by Carlo Séquin.

The minimal surface in Figure 1 is identical from above and below. In particular, there are three “tunnels” from the upper space that emerge just under the central “skirt” and three “tunnels” from the lower space that emerge just above the central “skirt”. In Figure 1 in front, one can see the round exterior of a tunnel just below the central skirt. On each side of it there are two openings corresponding to two tunnels from the lower space that are emerging just above the central skirt. The original Costa surface had two upward tunnels and two downward tunnels. For an excellent discussion and visualization, see

http://rsp.math.brandeis.edu/3d-xplormath/Surface/costa-h-m/costa-h-m.html

To get a feeling for the tunnel structure, place the three middle fingers of your left hand upward and place the three middle fingers of your right hand downward. Now interlace the six fingers so they alternate upward and downward. Your fingers then represent the tunnels. That is, your fingers correspond to the tunnel spaces.

Now consider a cube positioned upright on a vertex. From above one sees three upper square faces and from below one sees three lower square faces. Consider opening up a
tunnel moving downward from the top vertex. Let the tunnel branch off to form three tunnels that emerge at the centers of the three lower square faces. Similarly, consider opening a tunnel moving upward from the lower vertex. Let this tunnel branch off to form three tunnels that emerge at the centers of the three upper square faces. This is the ingenious idea of the formation of a Costa-like sculpture in a cube by Carlo Séquin, as shown in Figures 2, 3, and 4.

Note that a lot of the cube form has been deleted so that one can see the formation of the tunnels. The sculpture is a surface.

Referring to Figure 2, at the top the opening up of the tunnel moving downward results in a space where the top vertex was. The boundary of this space consists of three arcs that are concave up. There is a central skirt that consists of three concave up arcs and three concave down arcs that alternate.

The sculpture rests on the three points corresponding to the three concave down arcs that form the boundary of the bottom space where the lower vertex was. The three tunnels branching off from the top tunnel emerge just below the three concave down arcs of the skirt. Symmetrically, the three tunnels branching off from the bottom tunnel emerge just above the three
concave up arcs of the skirt.

An alternate view is shown in Figure 3 that has an orientation similar to Figure 1. We consider that we are looking down from the top. Here we see the three concave up arcs forming the boundary of the upper space. The sculpture is resting on two points of the skirt that are at the ends of a concave down arc. In the lower center, we see the round exterior of the tunnel emerging under this arc. In this position, the sculpture is resting on a third point that is on the boundary of the bottom space.

Another alternate view is shown in Figure 4. This view shows the over-all structure of the cube.

In Figure 4 we see that the surface cuts through the cube in 12 quarter circles, two on each face, with their centers on opposite corners of that face. The bronze caster Steve Reinmuth was able to apply brown and green patinas on this orientable two-sided surface, which clearly identify the two tunnel systems corresponding to the two different hands.

In conclusion, the author wishes to thank Carlo Séquin for information that was helpful in explaining the surface. All photos of the surface are courtesy of Carlo Séquin.
Benigna Chilla received her MA from the University at Albany – SUNY in 1973 and received her MFA from the University of Massachusetts at Amherst in 1974. She has been a faculty member in the Department of Fine Arts at Berkshire Community College (BCC) in Pittsfield, MA. since 1980. Benigna has been affiliated with the art/math movement since it’s beginning at the University at Albany in 1992. She has spoken at several of our conferences and was a curator of the group exhibit Art and Mathematics 2000 at Cooper Union College in New York City. She was also the curator of the exhibit when it was shown at BCC. Benigna also joined me in curating the art exhibit at the joint conference BRIDGES/ISAMA 2003 at the University of Granada, Spain.

Benigna has always concentrated on geometric art. In Figure 1 is an artwork that begins with the two-dimensional print pattern shown above. Two copies are folded to form two identical polyhedra that are then mounted below the print. The right polyhedron corresponds to the left polyhedron rotated a
quarter-turn to the left. Thus the artwork combines two and three dimensions. Actually I hadn’t realized it before writing this article, but Benigna created a hypersculpture below the print. This is because she positioned two copies of the same folded object in two different ways resulting in two congruent sculptures, thus forming a hypersculpture. The two sculptures relate nicely by touching at the top center. I have always liked these print-polyhedra combinations and Icosacapon just reinforced my own message: You can always learn to hypersee better and there is always more to hypersee. Thank you Benigna!

Her interest for the last several years has been on optical geometric art. Examples are shown below in Figures 2 -5. Each work consists of three planar surfaces consisting of one canvas surface and two layers of screening. Each layer is a geometric painting and the paintings relate and interact as one moves in front of the artwork. The dimension d refers to the depth or extension of the artwork in space since the screen layers are

Figure 2. RHYTHMICITY, 84” h x 110” w x 10” d, 1996

Figure 3. Spiral II, 1997, 84” h x 112” w x 10” d
Here are her comments on RHYTHMICITY in Figure 2. “On the canvas layer, two groups of narrow triangles meet in the center line and point up and down. On the first screen, the same image is repeated but slightly offset. The front screen frames the image with two groups of triangles pointing to the center from the upper and lower margins. Again the triangles are offset from the previous layer.”

A series of three related works SPIRAL II, SPIRAL III, and SPIRAL IV, are shown in Figures 3, 4, and 5. Benigna comments: “In order to achieve the three-dimensional illusion of these spirals in space, I had to overlap three layers: while keeping the centers of the layers parallax (one in front of the other spaced apart), the design of each layer was changed. On surface one, spirals were moving clockwise; on surface two, circles within circles of the same distance were applied; on surface three, spirals were repeated as on surface one but mirror-reversed and moving counterclockwise.”

The above descriptions of the artworks barely convey the actual experience of viewing the artworks in person. For additional information on Benigna Chilla’s works, see http://members.tripod.com/vismath5/benigna.
In Part One in the January issue of Hyperseeing we discussed three sculptures completed by Keizo Ushio in 2006. Here in Part Two we will discuss the four other sculptures that he completed in 2006.

Keizo was commissioned to do a sculpture for a private collector in Perth, West Australia. This sculpture is Oushi – Zokei 3 Twist 2006, shown in Figure 1. Actually Keizo had carved a smaller version of this sculpture in 1994. This sculpture may also be seen as an abstract torso with wide shoulders and a narrow waist. The triple twist shows how the same twist form can feel and appear quite different in the three different positions. This sculpture is also definitely a tour d’force in technical carving of granite. The polished wide edge, as well as the surface, have a strong yet elegant presence. The blue granite is very attractive.

A variety of views of Oushi-Zokei 3 Twist 2006 are shown in Figure 2. The size of the sculpture can be appreciated in the first photo in the upper left. We note that a top view of Oushi-Zokei 3 Twist 2006 has

Figure 1. Oushi-Zokei 3 Twist 2006, Blue granite, 150 w x 60 d x 150 h cm, Keizo Ushio Studio, Japan
half-turn rotational symmetry. This implies that for each of the views in Figure 2, the view from the location directly opposite would be the same. In general, this enables one to hypersee the sculpture as one walks around the sculpture. Of course the view of the sculpture also depends on the eye-level elevation of the viewer.

After carving the small version of Oushi-Zokei 3 Twist in 1994, Keizo carved a small version of Gift From the Earth in 1996. The large version of Gift From the Earth carved in 1997 is shown in Figure 3. The single upper twist in Gift From the Earth is based on the upper twist in Oushi-Zokei 3 Twist. Thus the idea of a single upper twist in Gift From the Earth came after the idea of Oushi-Zokei 3 Twist. However, the large version of Gift From the Earth in 1997 preceded the large version of Oushi-Zokei 3 Twist in 2006. We include Gift From the Earth since it is related to Oushi-Zokei 3 Twist, as well as Oushi-Zokei 2006 West discussed below.

We note that the lower portion of Gift From the Earth resembles the root forms of a tree and they merge into the upper portion, which resembles the shoulders of a torso. Thus we have a natural form merging into a figurative form. In general, Gift From the

Figure 2. Views of Oushi-Zokei 3 Twist 2006 on white granite base, 150 w x 60 d x 200 h cm, Perth, West Australia

Figure 3. Gift From the Earth, 1997, African Black Granite, 320 h x 270 w x 130 d cm, Asago Open Air Museum, Japan
Earth is a very powerful monumental sculpture. We also note that a top view of Gift From the Earth has half-turn rotational symmetry. Thus a ground level view like that in Figure 3 is identical to the view directly opposite.

**Oushi-Zokei 2006 West**

Keizo Ushio has participated twice in the outdoor sculpture exhibit at Cottesloe Beach in Perth, West Australia. His recent sculpture was Oushi-Zokei 2006 West, shown in Figures 4 and 5. The single full size upper twist here is based on the original upper twist in Oushi-Zokei 3 Twist. There was no preliminary small carving of Oushi-Zokei 2006 West. This sculpture also has half-turn rotational symmetry in the top view. The strong spiral movement can be seen in the side view in Figure 5, although it is not so obvious in the front view in Figure 4.

**Oushi-Zokei 2 Twist 2006**

Keizo also had a commission for a large cut Möbius band sculpture titled Oushi-Zokei 2 Twist 2006, shown in...
the dramatic night photo in Figure 6. This sculpture is located in a large housing development in Takaraduka, Japan. Note the boulders supporting the base that the sculpture is placed on. The boulders raise the sculpture to an impressive height.

The sculpture is shown in a daylight photo being placed on its permanent base in Figure 7. Note the interesting surface treatment that combines natural rough and smooth polished to exploit the natural color. Normally the natural rough treatment is confined to the lower part of the sculpture, whereas here the natural rough surface also occurs in the upper part and contrasts with the smooth polished surface. This can be seen more clearly in the detail image in Figure 8.

Oushi-Zokei 2 Twist 2006 is a cut Möbius band resulting in a thin inner space in the shape of a Möbius band; hence a Möbius band space. The sculpture also has half-turn rotational symmetry from above. Thus a ground level view and the view directly opposite are the same, as one walks around the sculpture. Of course the light/shadow effects will usually be quite different on opposite sides.
International Congress of Mathematics, Madrid.

Keizo was also commissioned to carve a divided torus at the International Congress of Mathematics that was held in Madrid, Spain this past August. Mathematicians from all over the world gather at this meeting once every four years. The sculpture Keizo carved was discussed in the October issue of Hyperseeing, and we repeat the image here in Figure 9. Another image from a different viewpoint is shown below in Figure 10.

As one can see in Figure 10, the surface treatment is left quite rough, while the drill marks appear smoother. The positioning of the two halves of the torus in Figures 9 and 10 represents one of Keizo’s most ingenious ideas. The result is an impressive form-space interlocking two-piece sculpture. The vertical form supports the horizontal form and is reminiscent of a Henry Moore two-piece reclining figure.

Conclusion.

The seven sculptures (Parts 1 and 2) completed by Keizo Ushio in 2006 are testimony to his enduring energy and creativity. He continues to successfully expand on his previous work as well as introduce new and exciting forms. We look forward to the results of 2007.

Figure 9. Oushi-Zokei ICM Madrid 2006, Indian black granite, 170 h x 140 w x 140 d cm, Madrid, Spain.

Figure 10. Oushi-Zokei ICM Madrid 2006, Indian black granite, 170 h x 140 w x 140 d cm, Madrid, Spain.

(All photos are courtesy of Keizo Ushio).
ILLUSTRATIONS BY ROBERT KAUFFMANN

DIET IN FLATLAND

NAT FRIEDMAN
&
ERGUN AKLEMAN

BEFORE Square
AFTER Rectangle

BEFORE Circle
AFTER Ellipse

LET'S TIE THE KNOT!

OH MY!
WHAT A CUTE BOY'S SURFACE!!

GIRL MEETS BOY'S SURFACE
MATHÉMATIQUES AND ART

The first exhibit “Mathématiques and Art” (Gazette des Mathématiciens, 10 (2005) 61-64, and November Hyperseeing Newsletter) is now travelling through Greece. A second exhibit will stand inside the nice library of the Université Paris 12 (March 5 – April 7). Works which could not be sent to Greece (like François Apéry’s and Philippe Charbonneau sculptures) will be displayed again, and works by Tom Banchoff-David Cervone, Jean-François Colonna, Patrice Jeener and John Sullivan will be shown here for the first time. The visitors will also discover recent works by Jean Constant, Bahman Kalantari, Jos Leys and Sylvie Pic.

ART AND MATHEMATICS 2007

There will be an exhibit Art and Mathematics 2007 in the Science Library at the University at Albany-SUNY (UAlbany), February 25-April 30, 2007. This exhibit will celebrate the fifteenth anniversary of the first Art and Mathematics Conference in 1992 (AM 92) held at UAlbany. The exhibit will feature works by Benigna Chilla. There will also be an exhibit of posters, books, and small sculptures by presenters at previous AM Conferences. A reception will be held during the afternoon of March 30, 2007, with presentations by Benigna Chilla and Nat Friedman.

BOOK REVIEWS

Here are two excellent books on Eduardo Chillida that would be appropriate reading for Bridges/Donostia since there will be an excursion to the Chillida Sculpture Park Zabalaga outside San Sebastian. (2) is usually available on Ebay.

(1) Chillida: 1948-1998
by Matthias Barmann, Eduardo Chillida, Kosme Barannano, Ina Busch, and Tomas llorens.

(2) Eduardo Chillida:Open-Air Sculptures
by Eduardo Chillida, Giovanni Carandente, and David Finn(photographer).
COMMUNICATIONS

This section is for short communications such as recommendations for artist’s websites, links to articles, queries, answers, etc.

A SAMPLE OF WEB RESOURCES

[1] www.kimwilliamsbooks.com
Kim Williams website for previous Nexus publications on architecture and mathematics.

Robert Fathauer’s website for art-math products including previous issues of Bridges.

The electronic journal Vismath, edited by Slavik Jablan, is a rich source of interesting articles, exhibits, and information.

A rich source of links to a variety of works.

Kenneth Snelson’s website which is rich in information. In particular, the discussion in the section Structure and Tensegrity is excellent.

Bradford Hansen-Smith’s webpage on circle folding.

The new webpage of Bridges.

[8] www-viz.tamu.edu/faculty/ergun/research/topology
Topological mesh modeling page. You can download TopMod.

George Hart’s Webpage. One of the best resources.

[10] www.cs.berkeley.edu/
Carlo Sequin’s webpage on various subjects related to Art, Geometry and Sculpture.

Geometry Junkyard: David Eppstein’s webpage anything about geometry.

Web Site for the International Symposium on Non-Photorealistic Animation and Rendering

Website of ACM Siggraph.
ISAMA’07
Sixth Interdisciplinary Conference of
The International Society of the Arts, Mathematics, and Architecture
College Station, Texas, May 18-21, 2007

CONFERENCEx
ISAMA’07 will be held at Texas A&M University, College of Architecture, in College Station, Texas. The purpose of ISAMA’07 is to provide a forum for the dissemination of new mathematical ideas related to the arts and architecture. We welcome teachers, artists, mathematicians, architects, scientists, and engineers, as well as all other interested persons. As in previous conferences, the objective is to share information and discuss common interests. We have seen that new ideas and partnerships emerge which can enrich interdisciplinary research and education.

FIELDS OF INTEREST
The focus of ISAMA’07 will include the following fields related to mathematics: Architecture, Computer Design and Fabrication in the Arts and Architecture, Geometric Art, Mathematical Visualization, Music, Origami, and Tessellations and Tilings. These fields include graphics interaction, CAD systems, algorithms, fractals, and graphics within mathematical software. There will also be associated teacher workshops.

IMPORTANT DATES
Dec. 15, 2006 Submission System Open
Feb. 22, 2007 Paper and Short paper submission deadline
Mar. 15, 2007 Notification of acceptance or Rejection
Apr. 1, 2007 Deadline for camera-ready copies

CALL FOR PAPERS
Paper submissions are encouraged in Fields of Interest stated above. In particular, we specify the following and related topics that either explicitly or implicitly refer to mathematics: Painting, Drawing, Animation, Sculpture, Storytelling, Musical Analysis and Synthesis, Photography, Knitting and Weaving, Garment Design, Film Making, Dance and Visualization. Art forms may relate to topology, dynamical systems, algebra, differential equations, approximation theory, statistics, probability, graph theory, discrete math, fractals, chaos, generative and algorithmic methods, and visualization.

archone.tamu.edu/isama07
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