

# Crystalline Glaze Workshops 2005-06

STORY BY DIANE CREBER • IMAGES BY SARAH HOLDEN



Vase by Ginny Conrow, with "Gold Stuff" glaze.

## Gold Stuff

✓ used by Ginny Conrow

Frit GF106	68.42%
Calcined Zinc Oxide	24.13
Silica (325 mesh)	7.45
<b>TOTAL</b>	<b>100.0%</b>

### add

Bentonite	2.0%
Rutile	5.0%
Ilmenite	3.0%

Fired with a neutral/reduction atmosphere in a Geil auto-damper kiln.

Crystalline glaze potters have benefited greatly by recent advancements in computer technology. By being able to pre-set firing programs, firings have become less labor-intensive and more accurate, encouraging more potters to experiment with these glazes. Consequently, there has been far more development in crystalline glazes in the last few years than in the past. A variety of events have recently taken place to bring crystalline glaze potters together to explore this evolving art and technology.

In September 2005, Jesse Hull organized LatticeStructures™, a conference and

exhibition of crystalline glazing in Kansas City, Missouri. This two-day event brought together more than 100 potters for discussions and exchanges of ideas. An exhibition was held simultaneously in the gallery at Red Star Studios. The gathering generated such enthusiasm among the participants that a subsequent conference was held again this year.

The second gathering was a five-day workshop held in May at the studio of Kris Friedrich in Palm Springs, California. Together with Peter Ilsey, John Tilton, Jesse Hull, and Glen Doyle, Friedrich planned the workshop and pre-mixed the glazes, although participants were

## Dusty Rose

✓ furnished by Peter Ilsey

Ferro Frit 3110	48.40%
Zinc Oxide	24.35
EPK	1.50
Amorphous Silica	17.95
Titanium Dioxide	7.80
TOTAL	100.0%

### *add*

Bentonite	2.0%
Copper Carbonate	2.0%

Fired in an oxidation crystalline firing peaking at 2340° F, followed by a second reduction firing descending from 1450° F.

also encouraged to mix their own. Guest potter Peter Ilsey from Daventry, England led the group of 22 invited potters and showed slides of his work, shared new glaze recipes and firing schedules, and demonstrated making a portable gas-fired kiln.

Each participant brought several bisque pots to glaze and fire in Friedrich's many kilns. His colleague, Tom Wallick, fired the kilns late into the night. The studio was equipped with four electric kilns, two gas (one a large car kiln), and a gas raku kiln for post-firing reduction. We also had use of a spray booth, and anything else one would need for doing crystalline glazes.

Ilsey opened the workshop with a talk, followed by a planning meeting and constant juggling of activities as the workshop progressed. We glazed pots and shared ideas both one-on-one and in larger groups. Throughout the five days, we glazed and fired continuously. Whenever a kiln was opened, we gathered around to see the results—sometimes burning fingers with impatience! Discussions followed, results were compared, and new kiln loads were fired in turn.

Interestingly enough, we found that one glaze could give a variety of results depending on its firing atmosphere. For instance, a glaze containing 2% copper carbonate first fired in oxidation in the electric kiln resulted in green

crystals on a green background. The same glaze fired in slight reduction in the gas kiln resulted in a mirror-like surface with a grey background and golden tan crystals. Up until recently, most crystalline potters have avoided reduction when growing the crystals because it was thought to interfere with crystal growth. However, by introducing slight reduction toward the end of the crystal-growing phase, we found it possible to have crystals in combination with effects unique to reduction firing. A pot first fired in the electric kiln and re-fired in a reducing atmosphere in the raku kiln resulted in a pink back-

ground with bright red crystals. This effect was achieved by first taking the temperature to 1500° F, then dropping to 1300° F in a reduction atmosphere.

More interesting results came from Jesse Hull's experiments with glazes containing silver nitrate and a small amount of copper carbonate. The first electric firing left them looking rather flat ... but after re-firing in the raku kiln in heavy reduction, the results were spectacular! A mirror finish with crystals of rainbow translucence could be seen, and as the pots were turned, other subtle colorings emerged as well.



Vase by Peter Ilsey, with "Dusty Rose" glaze.

GINNY CONROW PHOTO



Workshop leader Peter Ilsley loads the post-fire reduction kiln.

LEAH SHEA PHOTO



Vessel by Jesse Hull. Decorated with "Gold Silver Nitrate" glaze.

Although most of the participants were interested in achieving macro crystals, John Tilton and Marsha Silverman worked with crystalline mattes. Their results were so outstanding that many of us are now going to be experimenting with the matte glazes. Meanwhile, Tilton and Silverman also achieved some pretty exciting macro crystals, and plan to experiment with some of these glazes, too.

Matt Evans, a potter who often works with Friedrich, demonstrated throwing large, tall vessels to be crystalline glazed. On another day, professional photographer Sarah Holden took photos of our work on black glass with indirect lighting bouncing off the walls. She discussed how to photograph pottery and how to deal with an unwanted glare from the shiny glaze surface. Kiln manufacturer Paul Geil visited the studio and demonstrated temperature control and the use of oxygen probes and controllers.

Working with other professional potters in this setting allowed ideas to flow, and the results were outstanding. I feel I learned more about this glaze process in five days than I have in the past five years! I predict crystalline glazing will change dramatically, and it will be exciting to see where these potters take this process after experimenting together and sharing their results.

### Gold Silver Nitrate

✓ furnished by Jesse Hull

Fusion Frit 75	51.50%
Zinc Oxide	23.50
Silica	22.00
Grolleg Kaolin	1.00
Calcined Alumina	2.00
<b>TOTAL</b>	<b>100.00%</b>

#### add

Titanium Dioxide	4.00%
Silver Nitrate	5.00%
Cobalt Carbonate	0.25%
M.A.G.M.A. Binder	0.30%

Fired in an oxidation atmosphere peaking at 2350° F, followed by a separate heavy reduction firing descending from 1500° F. Pedestal fired in oxidation with gloss and crackle glazes to cone 2, then masked and glass etched. Finial lid and pedestal accented with low-fire enamel and 18K gold.

The participants all have Kris Friedrich to thank for making this workshop possible, and inviting us to use his studio. He created a CD of the workshop's results, so we will each have a lasting record of glazes used, kilns fired, firing schedules, and other useful information. By sharing our processes, each of us has come away richer in our knowledge of these fascinating glazes. @

*Diane Creber is a full-time studio potter specializing in crystalline glazes. She is the author of Crystalline Glazes published by A & C Black, London, England and The University of Pennsylvania Press, USA. She is also the author of numerous magazine articles and a forthcoming book, Potters in Residence.*

For details future crystalline glazing workshops, e-mail Jesse Hull at tao.tless@gmail.com.

### Golden Snow/Snare 1 Base

✓ used by John Tilton

Ferro Frit 3110	48.40%
Zinc Oxide	24.35
EPK	1.50
Amorphous Silica	17.95
Titanium Dioxide	<u>7.80</u>
TOTAL	100.00%

*add*

Bentonite 2.0%

Fired in a neutral/reducing atmosphere in an auto-damper kiln.

### Crystalline Matte

✓ furnished by Mark & Scott Winner

MM Frit 4067 (German)	58.3%
Custer Feldspar	15.9
Zinc	12.1
Lead Bisilicate	8.4
Amorphous Silica	<u>5.3</u>
TOTAL	100.0%

*add*

Rutile 6.0%  
Copper Carbonate 1.1%

Fired in an oxidation crystalline firing peaking at 2345° F, with holds between 2100-1850° F.

✓ GLAZE SAFETY NOTE: Formulas marked with this check may be considered questionable for use on functional pottery. Test thoroughly before using.



Vase by John Tilton, glazed with "Golden Snow/Snare 1 Base."



Vase by Mark and Scott Winner, glazed with "Matte Crystalline" formula.