

Paintings by Jonathan Feldschuh

AAAS Gallery / 10 August – 28 October, 2005

Drop Formation #1

acrylic on canvas over panel
57" x 48" / 2005

\$7,000

Drop Formation #2

acrylic on canvas over panel
57" x 48" / 2004

\$7,000

SN1a.5.28

acrylic on canvas over panel
57" x 48" / 2005

\$10,000

SN1a.4.06

acrylic on canvas over panel
78" x 67" / 2005

\$7,000

Mach Wave #1

acrylic on canvas over panel
57" x 48" / 2005

\$7,000

Cold, Dark

acrylic on canvas over panel
48" x 48" / 2005

\$6,500

Film #1

acrylic on canvas over panel
32" x 48" / 2004

\$5,500

DNS Chemical Mixing #2

acrylic on canvas over panel
36" x 36" / 2004

\$4,500

Big DNA

acrylic on canvas over panel
57" x 48" / 2002

\$7,000

Fingerlings

acrylic on panel
18" x 16" / 2005

\$2,400

Loss of Perspective

acrylic on panel
18" x 16" / 2000

\$2,400

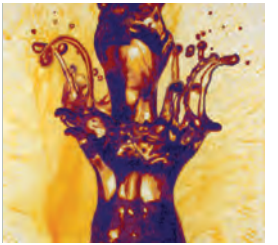
Inflection Point

acrylic on panel
18" x 16" / 2000

\$2,400

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Jonathan Feldschuh

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Simulations

This body of work continues the exploration of scientific images that I began with the *Macrocosm* series. With this new series, I have chosen images that researchers have created in an effort to simulate interesting phenomena which cannot be observed directly. Some of these simulations are created using super-computers, others are physical simulations, created perhaps on a workbench or in a wind tunnel. The subject of interest is being seen indirectly, a step removed – the eye in the sky has become the eye of the mind. Another layer of abstraction comes into play, as the process of painting echoes the process of simulation.

Color is an important element in these paintings. The freedom and responsibility of selecting a palette for an image is both mine and the original scientists'. Often scientists use some sort of "default" palette for presenting their images, either from a lack of interest in other possibilities, or a belief that color has a taint of subjectivity that must be avoided. In his book *Chromophobia*, David Batchelor discusses the bias against color that he sees in many aspects of Western culture. This bias is perhaps especially strong in science, where color is valued for its ability to represent information but suspect whenever it seems to have any kind of aesthetic agenda. I have chosen colors for my work that I hope will reference the original images and at the same time resonate with the richness of color's meaning in the tradition of painting. In some cases I have used a palette that closely replicates the highly saturated "rainbow" palette often used in science, which I think has very different resonance in painting – in science, this "default" palette connotes objectivity, whereas in painting it suggests the psychedelic or the mystical. In other paintings I have "colorized" black and white images or radically changed the colors, to different ends. The Drop Formation paintings take on a highly ambiguous quality from the warm, saturated tones they are painted with, sharing an iconic reference to soft-drink advertising and nuclear explosions.

Jonathan Feldschuh

February 2005

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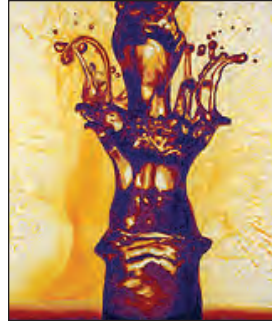
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Simulations – scientific sources for specific images



Jonathan Feldschuh, Drop Formation #1, acrylic on canvas over panel, 57" x 48", 2005



Ligament Mediated Drop Formation, Ph. Marmottant and E. Villermaux, LEGI, Grenoble and IRPHE, Marseille



Jonathan Feldschuh, Drop Formation #2, acrylic on canvas over panel, 57" x 48", 2004



Ligament Mediated Drop Formation, Ph. Marmottant and E. Villermaux, LEGI, Grenoble and IRPHE, Marseille

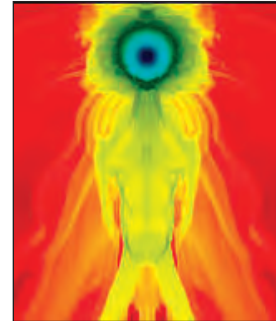
This was a benchtop simulation of a problem in fluid dynamics. The original image is presumably a high-speed strobe photograph of something that, except for its short duration, could be seen by the naked eye.

I decided to flip the images to a vertical orientation, and present them in a color palette loosely based on black-body radiation. I painted process-based abstractions as backgrounds for the paintings (in other words, I allowed the pigment and medium to interact in a semi-controlled fashion by pouring and splashing them together).

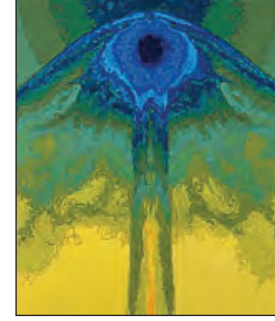
The original research is described in Ligament Mediated Drop Formation, Ph. Marmottant and E. Villermaux, *Physics of Fluids* Volume 13, Number 9 September 2001



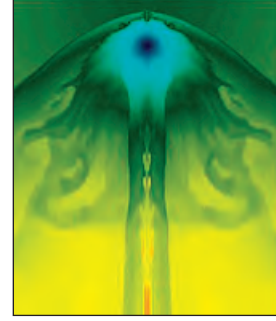
Jonathan Feldschuh, SN1a.5.28, acrylic on canvas over panel, 57" x 48", 2005



still; Marietta, Model of a SN Ia blast interacting with a main sequence star I



Jonathan Feldschuh, SN1a.4.06, acrylic on canvas over panel, 78" x 67", 2005

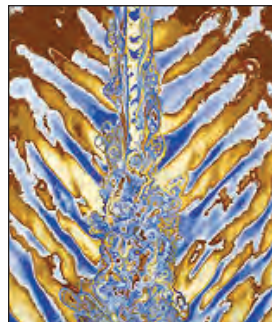


still; Marietta, Model of a SN Ia blast interacting with a main sequence star I

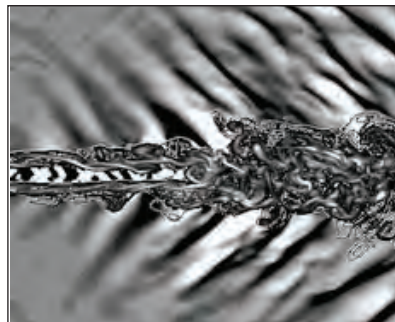
These paintings are based on still images from a low-resolution animation. This is a simulation of a supernova in a binary star system. One star in the system has exploded, and the movie depicts what happens to its companion. The exploded star would be off the top of the frame; the surviving star is seen as a ball, and the plume of stripped material stretches below it. The two stills shown are from late in each animation

I have retained the color scheme used by the scientists to make these paintings. Watching the short loop, I was struck by their iconic power as still images. The "neutral" rainbow palette combined with the bilateral symmetry and suggestive figural qualities of the Rorschach-like formations produce images that for me have a decidedly "psychedelic" quality.

The original research is described in "Type IA Supernova Explosions in Binary Systems: The Impact on the Secondary Star and Its Consequences" (Marietta, et.al. 2000ApJ...128..615M)



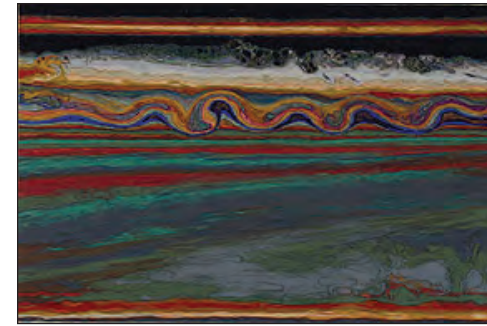
Jonathan Feldschuh, Mach Wave #1, acrylic on canvas over panel, 57" x 48", 2005



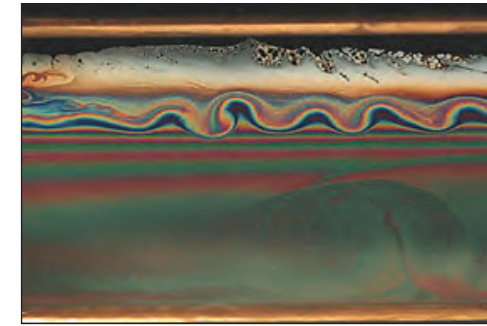
Mach Wave Radiation from a Jet at Mach 1.92

This is another painting based on a low-res animation still. In this case the level of detail was so great (particularly the churning ribbon forms) compared to the resolution of the source that I was pushed more and more to abstraction. I chose a palette that suggested sky and desert.

The source is a hybrid representation of a two-dimensional slice of a 3-D numerical simulation. The original research is described in "Mach Wave Radiation from a Jet at Mach 1.92," R. Darke and J. B. Freund, *Physics of Fluids* Volume 13, Number 9 September 20



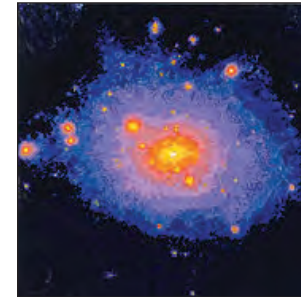
Jonathan Feldschuh, Film #1, acrylic on canvas over panel, 32" x 48", 2004



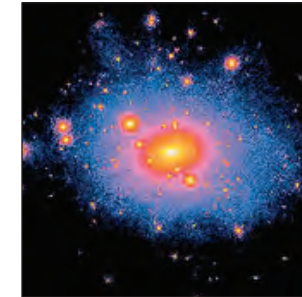
Evaporatively Driven Convection in a Draining Soap Film

This is another desktop fluid-dynamics simulation. I mostly kept the frosty, iridescent palette. I was attracted to the abstract landscape features of this image, which is probably a few inches across but suggests mountains, sea, and clouds. I used a lot of directed pours to create the swirling forms in the lower half of the canvas.

The original research is described in "Evaporatively Driven Convection in a Draining Soap Film", Jan M. Skotheim and John W. M. Bush, *Physics of Fluids* 12, Number 9 September 2000



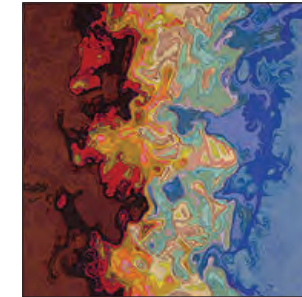
Jonathan Feldschuh, Cold, Dark, acrylic on canvas over panel, 48" x 48", 2005



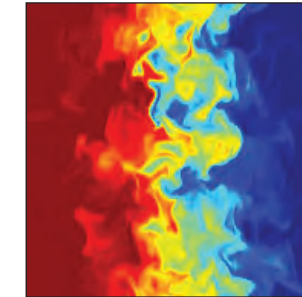
Cold Dark Matter Galaxy formation, Thomas Quinn (UW) N-Body/SPH et. al

This is a simulation of galaxy formation using various assumptions about cold dark matter -- the mysterious missing mass which cosmologists have been positing, in part as a way of making their simulations gibe with what we actually observe. I was struck by the image as an icon of multiplicity and spontaneous generation. I found the warm/cool palette of the original image very apt and reproduced it.

The original image was produced by Thomas Quinn with the Arctic Region Supercomputing Center.



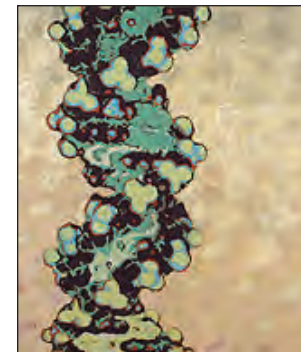
Jonathan Feldschuh, DNS Chemical Mixing #2, acrylic on canvas over panel, 36" x 36", 2004



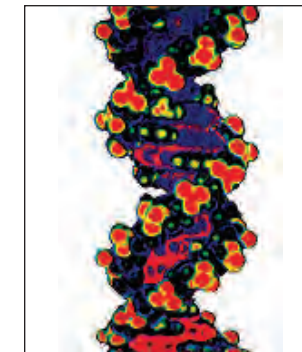
DNS Chemical mixing, Stephen de Bruyn Kops - Amherst / ARCS

This was one of the very first Simulations images. I was attracted to it as an almost pure abstraction. I altered the original rainbow palette to include more earth and muted tones.

The original image is a supercomputer simulation of fluid mixing, done by Stephen de Bruyn Kops at ARSC.

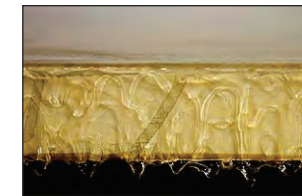


Jonathan Feldschuh, Big DNA, acrylic on canvas over panel, 57" x 48", 2002



DNA space-filling model

This painting is based on a low-resolution scan of a newspaper clipping of a space-filling model of DNA. I decided to change the palette to something green that suggested a different notion of "organic" -- perhaps a microcosmic beanstalk.



The acrylic paintings are made using a process that I have been developing over the past several years. They are characterized by their smooth gloss finish, and the use of multiple translucent layers. The paintings are composed mainly of acrylic medium, which I pour while the painting is horizontal. I use wooden panels to support these pours while they are drying. In between these smooth, clear layers, I work with various media, including pencil, pen, and dispersed pigments mixed in more acrylic medium. Close inspection of a painting will reveal the structure of the layers, which do not necessarily follow the pictorial layering (e.g. the "foreground" of the image is often on one of the deepest layers, whereas the "background" is often one of the last layers painted). The final layer or layers are always pure medium, giving the painting a uniform glossy surface.