The Presentations, Lectures, and Classes

of Jim Plaxco

www.artsnova.com

Presentations, Lectures, and Classes Summary

Category	Presentation Title
Astronomical Art	Art of Astronomy
Astronomical Art	Astronomical Image Processing with NASA and your PC
Astronomical Art	Hubble's Universe
Astronomical Art	Imaging Mars
Computer Art	Algorithmic Art: Where Art, Computers, and Math Collide
Computer Art	Computer Art, Digital Art, New Media Art
Computer Art	Processing for Artists and Photographers
Digital Art	The Agony and Ecstasy of Being A Digital Artist
Digital Art	Live Art
Space Art	The National Space Society Space Settlement Art Contest
Space Art	Art and the Exploration of Space
Web Development	Building an Online Presence: The Internet for Artists and Photographers
Web Development	Search Engine Optimization for Artists and Photographers Class
Web Development	Social Media for Artists and Photographers

Past Presentation Venues Include...

Museums
- Adler Planetarium, Chicago IL
- Cernan Space Center, Triton College, River Grove IL
- Museum of Science and Industry, Chicago IL

Schools
- Da Vinci Academy, Elgin IL
- Eisenhower Junior High School, Hoffman Estates IL
- Harper College, Palatine IL
- Kennedy High School, Chicago IL
- Prairie Ridge High School, Crystal Lake IL

Libraries
- Helen M. Plum Memorial Library, Lombard IL
- Hinsdale Public Library, Hinsdale, IL
- Morton Grove Public Library, Morton Grove, IL
- Niles Public Library, Niles IL
- Schaumburg Township District Library, Schaumburg IL

Conventions
- Capricon Science Fiction Convention
- International Space Development Conference
- Midwest Space Development Conference
- Worldcon World Science Fiction Convention
- Windycon Science Fiction Convention

The Art of Astronomy

Jim Plaxco, Artsnova

The Art of Astronomy

The Art of Astronomy covers the history and evolution of astronomical art and explores the differences between astronomical art, space art, and science fiction art. Learn how technological revolutions influenced artist's depictions of the heavenly bodies.

Astronomical artists discussed include Etienne Trouvelot, Lucien Rudaux, Charles Bittinger, Chesley Bonestell, and David Hardy. Also covered is the NASA Art Program.

The presentation concludes with a discussion of how anyone with a computer and internet access can download astronomical and planetary data from the various NASA space missions and create their own astronomical art.
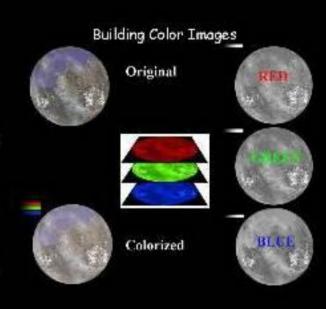
No Camera, No Telescope? No Problem!
Making Astronomical Art with your PC

Astronomical Image Processing with NASA and your PC

Astronomical Image Processing with NASA and your PC is about how anyone with a computer and internet access can create astronomical art using data from various NASA robotic missions. The tutorial uses as its primary planetary data system (PDS) example data files generated by the Mars Global Surveyor mission to Mars. The primary flexible image transport system (FITS) example data is taken from the Hubble Space Telescope data archives. The presentation strives to be as platform and software neutral as possible so as to maximize value to the largest number of participants. People attending the presentation are free to follow along on their own computers.
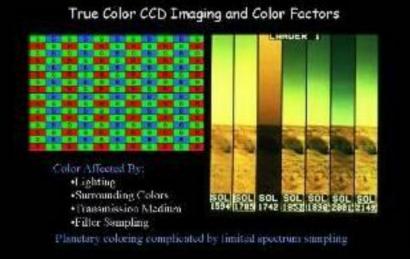
Building Color Images

Original

RED

GREEN

BLUE

Colorized

Factors to Consider: Image Geometry

A = Phase Angle
B = Emission Angle
    0° = nadir view
    90° = tangential view
C = Incidence Angle
    0° = subsolar point
    90° = tangential view

True Color CCD Imaging and Color Factors

LANDER 1

SOL 1594 SOL 1783 SOL 1742 SOL 1853 SOL 1839 SOL 2881 SOL 2149

Color Affected By:
• Lighting
• Surrounding Colors
• Transmission Medium
• Filter Sampling

Planetary coloring complicated by limited spectrum sampling

Hubble's Universe

By Jim Plaxco

Hubble's Universe

Hubble's Universe is a presentation about the Hubble Space Telescope, astronomical imaging, and some of the discoveries made possible by the Hubble Space Telescope. Included is an overview of Hubble's data collection instruments/cameras and an overview of the electromagnetic spectrum. This is followed by a discussion of the methods by which the data from the various instruments is converted into the beautiful astronomical images that have changed our view of the universe.

A broad array of representative images are used in the presentation, including planets of the solar system, nebula, black holes, and galaxies. The images are used as illustrations to explain several of the astronomical and cosmological discoveries made from Hubble Space Telescope data.

Orion Nebula - Stellar Nursery

Orion Nebula is 1,500 LY distant
720 ACS images in 5 colors used

Hubble + Spitzer + GALEX = Synergy

- Different wavelengths of "light" reveal different secrets
- Pictured: M81

Imaging Mars

Imaging Mars is a presentation created primarily for astronomy clubs and space exploration related conventions. This lecture deals with planetary image processing and how the raw data returned by the various robotic missions are digitally processed. Relevant elements of art theory are incorporated with respect to creating the most attractive image possible given the data constraints placed on the "artist".
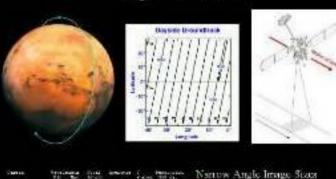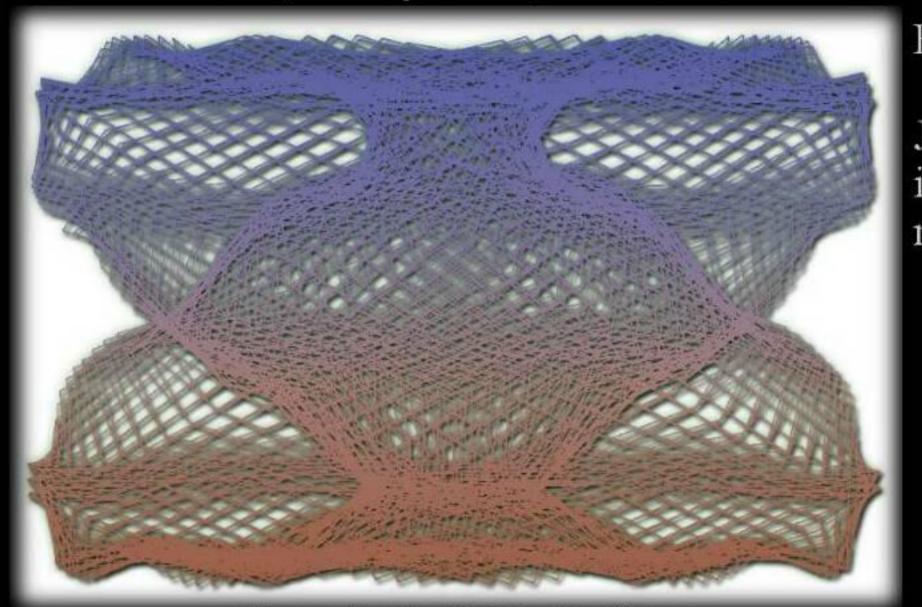
The Color/Albedo Dichotomy

Martian Color: What is True?

June 26, 2001   September 4, 2001

Mars • Global Dust Storm
Hubble Space Telescope • WFPC2

Image Construction

Narrow Angle Image Sizes

Algorithmic Art:
Where Art, Computers, and Math Collide

By Jim Plaxco

Connecting the Dots by Jim Plaxco

Algorithmic Art: Where Art, Computers, and Math Collide

Algorithmic Art: Where Art, Computers, and Math Collide deals with the history of that form of computer art known as algorithmic art. The compositions seen in algorithmic art are compared with conceptual art, minimalism, abstract expressionism, and geometric abstractionism. Examples of important works and computer artists illustrate how algorithmic art has evolved over time.

Benoit Mandelbrot's Fractal Geometry

"Clouds are not spheres, mountains are not cones, coastlines are not circles, and bark is not smooth, nor does lightning travel in a straight line."

Benoît Mandelbrot, *The Fractal Geometry of Nature*, 1983

Aspects of the Algorithms

- Recursion
- Chance
  - Randomization
  - Perlin Noise
- Artificial Life (A-Life)
  - Cellular Automata (CA)
- Fractals
  - Mandelbrot Set
  - Julia Set
- Tessellation
- Chaos Theory
  - Attractors
- Flocking Behaviors

• *Large Landscape:Ochre and Black*
Charles & Colette Bangert, 1970

Artist's discussed include Jean-Pierre Hébert, Ben Laposky, Frieder Nake, Georg Nees, and Manfred Mohr. Also discussed are some of the concepts and the different areas of computer art including chaos, fractals, and generative art. The presentation concludes with a brief overview of several free computer graphics software products that can be used for the creation of algorithmic art.

Computer Art
Digital Art
New Media Art

Jim Plaxco, artsnova.com

Computer Art, Digital Art, New Media Art

The exploding popularity of art created through the use of digital technologies and the continual invention of new means of creative usees of computing technology has produced an ever changing landscape of creative possibilities and, by necessity, terminology. The presentation *Computer Art / Digital Art / New Media Art* provides an overview of the dynamic world of new media art, also known variously as digital art, computer art, etc.

Is It Real or Is It Computer?

One of these paintings was created by renouned artist Piet Mondrian. The other was created by an algorithm employing pseudorandom numbers. Which do you prefer?
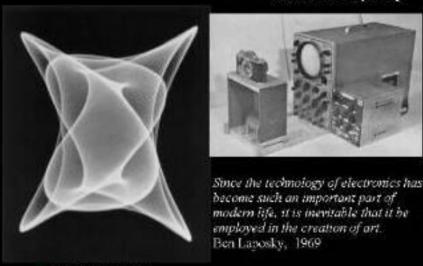
Computer Composition with Lines, 1965 by A. Michael Noll vs Composition with Lines by Piet Mondrian, 1917

Pioneers: Jean-Pierre Hébert

Un Cercle Trop Etroit: Derivee Seconde - Jean-Pierre Hébert , 1995

More Ben Laposky

Since the technology of electronics has become such an important part of modern life, it is inevitable that it be employed in the creation of art.
Ben Laposky, 1969

Oscillon 281, 1960

Processing for Artists and Photographers
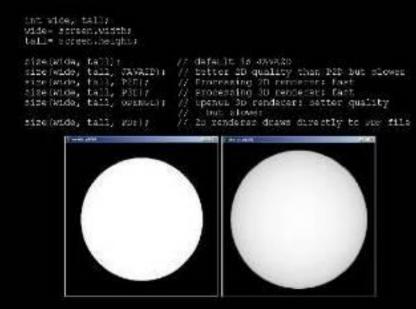
Jim Plaxco, www.artsnova.com

Processing for Artists and Photographers

Processing for Artists and Photographers is a tutorial oriented presentation to introduce Processing to artists, photographers, and anyone else interested in creating their own computer graphics programs.

Processing is an open source digital creativity programming platform especially designed for use by non-programmers. Covered are the basic language concepts, the creative use of randomness, recursion techniques, art from sound, and more. Participants should feel free to bring their computers with Processing installed (processing.org) so that they can create their own art programs in real time.

Processing Output Modes

The Components of a Processing Sketch

- Variables
  - Used to store data values
  - Variables have scope
- Functions()
  - Blocks of code to be executed
  - Functions can call other functions
  - aka methods
- Classes
  - A group of related variables and functions
- Objects
  - An instance of a class
- Syntax
  - Rules governing names, statements, functions, classes, etc.

The Agony and Ecstasy of Being A Digital Artist

The Agony and Ecstasy of Being A Digital Artist is a wide ranging discussion of the various challenges that confront the digital artist. From the differences between digital and traditional painting to the rewards of operating in a new, rapidly evolving medium, this lecture is a first person look at the evolution of the digital medium and how one artist copes with its unique challenges.

Topics covered include computer graphics software, hardware, printing advances (printers, papers, and inks), digital photography, styles of digital art, workflow, and the debate on traditional vs digital art.

A problem has been detected and Windows has been shut down to prevent damage to your computer.

DRIVER_IRQL_NOT_LESS_OR_EQUAL

If this is the first time you've seen this stop error screen, restart your computer. If this screen appears again, follow these steps:

Check to make sure any new hardware or software is properly installed. If this is a new installation, ask your hardware or software manufacturer for any windows updates you might need.

If problems continue, disable or remove any newly installed hardware or software. Disable BIOS memory options such as caching or shadowing. If you need to use safe mode to remove or disable components, restart your computer, press F8 to select Advanced startup options, and then select safe Mode.

Technical Information:

*** STOP: 0x000000D1 (0x0000000C,0x00000002,0x00000000,0xF8685A89)

***   gv3.sys - Address F8685A89 base at F8685000, Datestamp 3dd991ab

Beginning dump of physical memory
Physical memory dump complete.
Contact your system administrator or technical support group for further assistance.

Lenna: Image Processing's Goddess!

First, the image contains a nice mixture of detail, flat regions, shading, and texture that do a good job of testing various image processing algorithms. It is a good test image!

Second, the Lena image is a picture of an attractive woman. It is not surprising that the (mostly male) image processing research community gravitated toward an image that they found attractive.

David C. Munson, editor-in-chief,
Jan. 1996
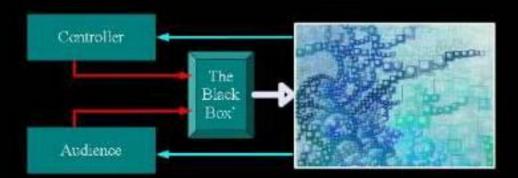IEEE Transactions on Image Processing

Live Art:
Art = Blackbox(Sounds, Motions, Algorithm);

By Jim Plaxco, www.artsnova.com

Live Art combines art created in real time through audience participation with a presentation about the mechanics of how it is done. This program begins with an overview of the concepts and tools used to create the Live Art computer graphics programs. The presentation is followed by a live demonstration during which the audience creates art in real time via their vocalizations in conjunction with various black box manipulations performed by a volunteer from the audience.
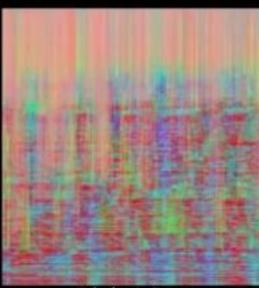
The Live Art Schematic

- Data input comes from the Audience
- The master controller is a person
- The Black Box paints using the defined inputs
- The painting is complete when the switch is thrown

Live Art's Black Box Components

- Audio Inputs:
  - Live Microphone Feed
  - Audio File
- Tactile Inputs:
  - Mouse Location
  - Mouse Movement
  - Mouse Clicks
  - Arduino Switches
  - Arduino Potentiometers
- Visual Imputs:
  - Live Video Feed
  - Video File
- The Algorithm
  - Reads Inputs
  - Map Inputs to Output
- Visual Output

Telephonic Experiment

The National Space Society
Space Settlement Art Contest
and 2008 Calendar

SPACE SETTLEMENT 2008
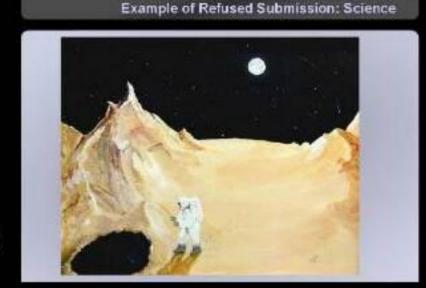

National Space Society

National Space Society Space Settlement Art Contest

The *National Space Society Space Settlement Art Contest* is a presentation about my experiences organizing and managing an art contest whose goals were:

- to encourage artists to create space art

- to create a space settlement calendar featuring the contest's best art to publicize space settlement

- to create a unique collection of space art for the National Space Society's web site and magazine that would promote space settlement

- to broaden public exposure to the idea of space settlement

The lecture includes a full review of the 12 winning entries from the art contest.

Example of Refused Submission: Science

March

Descent into the Dark Side
Raymond Cassel
Colorado, USA
Digital

Art and the
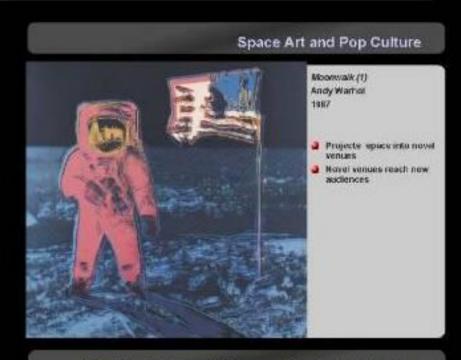Exploration
of Space

Jim Plaxco,
Artsnova

Artwork by Glen Orbik

Art and the Exploration of Space

Art and the Exploration of Space looks at the development of space art and how that art evolved over time to reflect the realities of aerospace engineering. Also discussed is the influence of science fiction in the portrayal of space exploration. Particular attention is paid to the means by which art is used to portray space exploration from exploratory, educational, and inspirational perspectives.

An overview of the NASA Art Program is provided and NASA's recognition of the emotional impact of art vs photography is discussed. Space artists whose work is discussed include Chesley Bonestell, Paul Calle, Robert McCall, Henry Casselli, and astronaut-artist Alan Bean.

The presentation concludes with an examination of why artists should create space art and what opportunities exist for the space artist.

Space Art and Pop Culture

Moonwalk (1)
Andy Warhol
1987

- Projects space into novel venues
- Novel venues reach new audiences

What Words Cannot Express: Portraying Heroism

- Opening the Space Frontier – The Next Giant Step · Robert McCall, 1979

Building An Online Presence:
The Internet for Artists and Photographers

Jim Plaxco, www.artsnova.com

Building An Online Presence:
The Internet for Artists and Photographers

Building an Online Presence: The Internet for Artists and Photographers covers a broad array of issues facing the artist or photographer who is looking to either create their initial presence on the Internet or to improve their existing presence. Some of the topics covered are:

- planning your online strategy
- identifying a web site solution
- blogging for your art
- using social media to promote yourself
- effective Search Engine Optimization
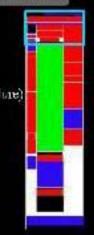
Ugh!

- What's wrong with it?
  - Can't read without resizing
  - Too many images makes for slow access
  - Links hard to click
  - Too many page elements

- SOLUTION:
  - Responsive Web Design?

Web Site Design Pitfalls

- Too many advertisements
- Bad legibility (font, colors, contrast)
- Bad or hard to understand navigation
- Bad organization (information architecture)
- Playing music
- Bad/broken coding
- Bad visual design/layout
- Heavy pages - slow to load
- Requires registration

Social Media Platform Popularity

Google+ is now #2

December 2012

A Social Media Experiment

Search Engine Optimization
For
Artists and Photographers

ANCHOR TEXT KEYWORDS

PAGERANK

SEM

SMM

ALT ATTRIBUTE

BACKLINKS

LONG TAIL

FRESHNESS

SERP

EVERFLUX

SEO
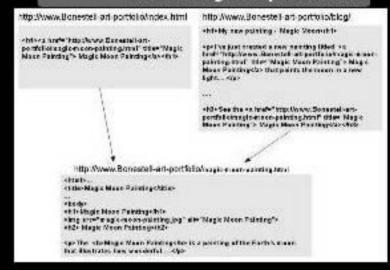
META TAG

NOFOLLOW

KEYWORD DENSITY

Search Engine Optimization for Artists and Photographers

For artists and photographers, a principal concern is the ability of people to find their web site. With so much of the web's traffic being driven by search engine results, search engine optimization is important to a site's findability.

As an artist and photographer, my journey along this path has been greatly aided by my background in IT (information technology) and web design and development. My goal is to help other artists and photographers improve the quality and findability of their web sites by sharing what I have learned over the years.

Search Engine Optimization for Artists and Photographers will help artists and photographers understand exactly what SEO (search engine optimization) is, what it's components are, and how these components work together to improve a site's standing in the search engines.

Search Engine Optimization

SEO Off Site Components

SOCIAL NETWORKS
- +1 on Google+ post
- Facebook comments
- Facebook likes
- Pinterest pins
- Tweets

OTHER SITES
- Total Backlinks (impacts Page Rank)
- Total Backlinks from same country (impacts Page Rank)
- Backlink quality (page rank of source links)
- Contextual links (links embedded in content)
- Backlink anchor text
- Linking domain relevancy
- Google Places

Social Media for Artists and Photographers

Jim Plaxco, www.artsnova.com
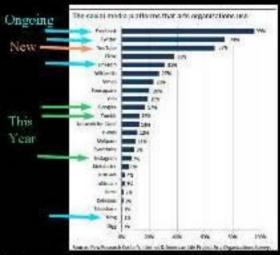
Social Media for Artists and Photographers

Social Media for Artists and Photographers provides insights, tips, and strategies that artists and photographers can use in creating a social media presence that promotes their craft, their brand, and their business web site.

Topics covered include

- benefits of using social media marketing
- creating personal profiles on various platforms
- creating business pages on Facebook, Google+, and Linkedin
- using social media as a component of SEO
- social media content strategy
- identifying which platforms are right for you

Included in the presentation will be the actual creation of personal profiles on several of the more popular social media platforms.

Where Are Arts Organizations?

http://www.artsnova.com/review-Arts-Organizations.html

Social Media and Videos

- YouTube, Vimeo leading platforms
- Note cover image consistency
- Publish (embed) video on your web site

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The Art of Jim Plaxco

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- Digital Art Gallery - http://www.artsnova.com

- Artsnova Blog - http://www.artsnova.com/blog/

- Contact Form: http://www.artsnova.com/blog/contact-jim/