

# **Barbara J. Meier**

## **Curriculum vitae**

Department of Computer Science  
Box 1910  
Brown University  
Providence, RI 02912

Email: [bjm at cs dot brown dot edu](mailto:bjm@cs.brown.edu)  
Web: <http://www.cs.brown.edu/~bjm>

### **Research Overview**

Research in creating computer graphics techniques for producing imagery that increases effective visual communication through use of aesthetic and artistic methods. These techniques will build on knowledge and approaches used by artists working with traditional media. Recent work in non-photorealistic rendering for animation focuses on techniques that allow designers of 3D computer graphics imagery to draw directly on 3D models using tools that look and feel like natural artistic media. Work in user interface design includes tools that allow users to quickly experiment with color palettes within the context of composing imagery to arrive at effective selections.

### **Artist's Statement**

In my art, I offer a window into questions of humanity. I believe that in our culture of media, politics, and morality, people have become overly concerned with how they present themselves to the world. This concern and fear masks their true beliefs, and in turn isolates them from people who share both their struggles and successes. I strive to knock down these walls of isolation by revealing that we all have private aspirations and frustrations, and these are the very things that make us human and allow us to connect in the most intimate ways. In my art, I want to admit that not only is there an elephant in the room, but to explore what it is like to have it there, and what we are going to do about it.

I also believe that one of the best ways to communicate ideas is through storytelling, and this is why I choose animation as an art form. I believe that the visual telling of a story adds a dimension similar to counterpoint in music: the story and visuals are like two melodic lines that sometimes separate and sometimes come together establishing a harmonic relationship while retaining their individuality. I design new styles of animation that combine traditional and computer techniques to push the visual aspect of animation to its most effective and transcendent level within the context of the story. I believe that when viewers see something unlike anything they have ever seen before, they take more notice and remember what they have seen. I want to change how people look at the seemingly small issues of everyday life, but those that affect us and our relationships in some of the more profound ways.

### **Education**

Postgraduate art and design education

Rhode Island School of Design, Providence, 2002-3. Experimental drawing, figure drawing, anatomy, 2D design.

Art Center College of Design, Pasadena, 1998. Year-long study of children's book illustration.

School of the Museum of Fine Arts, Boston, 1988-9. Studied experimental animation and filmmaking and produced films using watercolor and computer graphics.

M.S. Computer Science, Brown University, 1987.

*ACE: A Color Expert for User Interface Design*. Researched effective use of color across many disciplines. Embodied this knowledge as rules in an expert system to test viability of using an automated mechanism for choosing effective and tasteful colors for user interface widgets such as menus, windows, and buttons. Demonstrated that an expert system is a viable method for choosing an initial set of colors that can be further tuned by a human expert.

B.A. Computer Science, Brown University, 1983.

## Experience

**Visiting Assistant Professor, Brown University Dept. of Computer Science, 2006-present.** Designed and offered new course Spring 2007: Intermediate Computer Animation.

**Visiting Lecturer, Brown University Dept. of Computer Science, 2003-2006.** Introduction to 3D Computer Animation, a studio course offered to computer science and visual art undergraduates and graduate students. Advising independent study students in computer animation and digital painting.

**Researcher, Brown University Dept. of Computer Science, 1999-2003.** Collaborative research in non-photorealistic rendering methods for interactive illustrations and animations. Worked with artists and scientists to create user interface tools for helping users of graphic design programs choose effective and aesthetic color palettes through quick experimentation. Advised two students on year-long independent studies in animation and visual effects.

**Senior Animator/Technical Supervisor**, Hammerhead Productions, Los Angeles, 1996, 1997-8, 2001. Designed and animated visual effects for feature films including *Sphere*, *Paulie: A Parrot's Tale*, *Kazaam*, and *Shadowbuilder* and *Showtime*. Extensive digital matte painting for *Romeo+Juliet*.

**Art Director**, Cinesite, Los Angeles, 1997. Supervised visual effects crew for *Devil's Advocate*. Provided creative direction to artists in daily one-on-one sessions and communicated results in client meetings.

**Animator**, Tooned In, Los Angeles, 1997. Designed and animated character avatars for on-line chat room.

**Technical Art Director**, Walt Disney Feature Animation, Los Angeles, 1995-6. Conceived and developed new computer graphics painterly rendering animation technique for possible use in *Fantasia 2000*, published in Proc. SIGGRAPH 96.

**Senior Animator/Technical Supervisor**, Pacific Data Images, Los Angeles, 1991-5. Supervised and animated visual effects and created matte paintings for over a dozen feature films. Worked in teams bidding projects, developing creative look and technical design, animating, and compositing shots. Projects included *True Lies*, Michael Jackson's *Black or White*, *Heart and Souls*, *Toys*, and *Double Dragon*.

**Animator**, Animated Technologies, Los Angeles, 1990. Industrial animation.

**User Interface Design Consultant**, Stellar Computer, Boston, 1988-9. Formulated corporate user interface strategy. Designed and implemented window manager, widgets, and icons.

**Researcher**, Brown University Dept. of Computer Science, 1983-7. Researched color issues and synthesized a strategy for effective color use in computer interfaces. As part of Brown Computer Graphics Group, created a modular, artist-friendly 3D modeling and animation system.

## **Publications**

Barbara J. Meier, Anne Morgan Spalter, David B. Karelitz. Interactive Palette Tools. *IEEE Computer Graphics and Applications*, 24 (3), May/June 2004.

Robert D. Kalnins, Lee Markosian, Barbara J. Meier, Michael A. Kowalski, Joseph C. Lee, Philip L. Davidson, Matthew Webb, John F. Hughes and Adam Finkelstein. WYSIWYG NPR: Drawing Strokes Directly on 3D Models, *Transactions on Graphics*. Proc. SIGGRAPH, July 2002.

Anne Morgan Spalter, Philip A. Stone, Barbara J. Meier, Timothy S. Miller, and Rosemary Michelle Simpson. Interaction in an IVR Museum of Color. SIGGRAPH 2000, Conference Abstracts and Applications Proceedings, reprinted in *Leonardo* 35:1, MIT Press, 2000.

Lee Markosian, Barbara J. Meier, Michael A. Kowalski, Loring S. Holden, J. D. Northrup and John F. Hughes. Art-based Rendering with Continuous Levels of Detail. Proc. NPAR 2000 (Non-Photorealistic Animation and Rendering), Annecy, France, June, 2000.

Barbara J. Meier. Computers for Artists Who Work Alone. *Computer Graphics* 32 (1), February, 1999.

Barbara J. Meier. Painterly Rendering for Animation. Proc. SIGGRAPH, August, 1996.

Barbara J. Meier. ACE: A Color Expert System for User Interface Design. Proc. SIGGRAPH Symposium on User Interface Software, Banff, Alberta, October, 1988.

Barbara J. Meier. ACE: A Color Expert System for User Interface Design. Master's Thesis, Brown University, 1987.

Barbara J. Meier. Effective Use of Color in User-Computer Interface Design. Dept. of Computer Science Tech Report, Brown University, 1987.

Barbara J. Meier, BUCOLIC: A program for teaching color theory to art students. *IEEE Computer Graphics and Applications* 5 (7), July, 1985.

## **Feature film and music video credits**

*Showtime* (2001)

*Paulie: A Parrot's Tale* (1998)

*Sphere* (1998)

*Shadowbuilder* (1997)

*Devil's Advocate* (1997)

*Romeo + Juliet* (1996)

*Kazaam* (1996)

Michael Jackson's *Is This Scary* (1995)

*Bushwacked* (1995)

*Speechless* (1994)

*True Lies* (1994)

*Double Dragon* (1994)

*Heart and Souls* (1993)

*Children of the Corn II* (1993)

*Cliffhanger* (1993)  
*Toys* (1992)  
Michael Jackson's *Remember the Time* (1992)  
David Byrne's *She's Mad* (1992)  
*Batman Returns* (1992)  
Disney's Circlevision *From Time to Time* (1992)  
Michael Jackson's *Black and White* (1991)  
*Star Trek VI* (1991)

*True Lies* nominated for Academy Award Best Visual Effects, 1994.  
Finalist, International Monitor Award for Best Electronic Special Effects (Feature Film), *Heart and Souls*, 1994.  
Winner, International Monitor Award for Best Electronic Special Effects (Music Video), *Black or White*, 1992.  
Finalist, International Monitor Award for Best Electronic Special Effects (Music Video), *She's Mad*, 1992.

### **Images, animations, and films**

Haystacks, computer image, 1996. Cover Proc. SIGGRAPH, SIGGRAPH Technical slide set, also published in several books.

Haystack compositing example, computer image, 1996. Published in several books.

An example of the painterly rendering pipeline, computer image, 1996. Published in a book.

Four styles of painterly rendered fruit, computer image, 1996. Published in several book.

Haystacks, computer-generated animation, 1996. SIGGRAPH video review. Stills reproduced in books.

SKYLIGHT, 16mm film, 1989.

Firebird, 16mm film, with David Laidlaw, 1988.

Ginger Rising, 16mm film, 1986.

Color Choreography, computer image, with David Laidlaw, 1986, 2nd place, student category, Raster Technologies Image Contest, 1986; permanent collection, Boston Computer Museum, since 1986; SIGGRAPH Technical Slide Set, 1986; also published in many books.

Three Views of the CIE Color Space, computer image, 1986, published in several books.

Spectral Distributions, computer image, 1986, published in several books.

Images from BUCOLIC, computer images, SIGGRAPH Computer Supported Design Exhibition and Slide Set, 1984, IEEE *Spectrum*, June, 1994, also published in several books.

Self-portraits, hand-colored black and white photographs, Senior Show, List Art Center, Brown University, May, 1983.

Floral Composition, computer image, cover, *Brown Alumni Monthly*, 83:3, November, 1982.

### **Invited talks, conference presentations, panel discussions**

Cartoon Master conference, invited speaker, A Coruna, Spain, April 2005.

Computer Animation, computer graphics course guest lecturer, Brown University, 2003-6.

Appreciation and Criticism of the Short Animated Film, organizer and lecturer, half-day course, SIGGRAPH 2003, San Diego.

Behind the scenes with painterly rendering, Pixar Animation Studios, San Rafael, 1997.

Painterly rendering for animation, SIGGRAPH, New Orleans, 1996.

Digital Film Effects, Brown University Fundraising event, San Francisco, December, 1985.

ACE: A color expert for user interface design, SIGGRAPH Symposium on User Interface Software, Banff, Alberta, 1988.

Color for computer graphics, graduate computer graphics course guest lecturer, Brown University, 1983-88.

Can a computer pick colors?, Color in the User Interface Panel Discussion, SIGGRAPH, Dallas, 1986,

The role of expert systems in color selection, Color in the User Interface Panel Discussion, NCGA Computer Graphics '86 Conference, Anaheim 1986.

Theory, Paint, and Pixel, Munsell to Pixel Conference, Massachusetts College of Art, Boston, 1985.

Student experiences with BUCOLIC: a computer program for teaching color theory, NERCOMP Conference: Computing in the Humanities: New Opportunities for Higher Education, Pine Manor College, Brookline, Massachusetts, 1985.

BUCOLIC: A program for teaching color theory, Apple Computer, Inc., Cupertino, 1985.

Designing BUCOLIC: a program for teaching color theory, ACADE (Art + Design Education) conference, Minneapolis, 1984.

## **Professional Service**

Paper reviewer for ACM SIGGRAPH 1988-2006, *ACM Transactions on Graphics*, *Journal of Graphics Tools*, *IEEE Computer Graphics and Applications*, IEEE Visualization conference, IEEE Transactions of Visualization and Computer Graphics.

Papers program committee for ACM/SIGGRAPH NPAR (Non-photorealistic animation and rendering) 2000, 2002, 2004.