

# STEVE DiPAOLA

Simon Fraser University  
Surrey, BC Canada  
http://www.sfu.ca/~sdipaola  
sdipaola@sfu.ca  
t: 778.782.7479 f: 778.782.7488

www.dipaola.org

Home  
North Vancouver, BC  
http://www.dipaola.org  
steve@dipaola.org  
t: 604.719.6579 v.1011

## Principal Fields of Interests:

Computational Expression, Emotion and Creativity Systems  
Artificial Intelligence & Computational Cognition Systems  
3D Computer Graphics, Animation, Simulation  
Computer based Games and Visualization  
Digital & Interactive Fine Art  
Art Research & Computer Creativity Practices  
Facial, Character, and Agent based Systems

## Education

PhD	Computer Science/Psychology (ISGP)	Univ. of British Columbia, BC	Expected mid 2010
Master of Arts	Computer Graphics	New York Institute of Technology, NY	1991
Bachelor of Science	Computer Science	State University of New York at Stony Brook, NY	1981

## ACADEMIC EXPERIENCE:

### Associate Professor Simon Fraser University **2001 - present**

**Associate Professor**, School of Interactive Arts and Technology **Associate Faculty**, Program in Cognitive Science

Developing programs, curriculum and research in this new **interdisciplinary school of SFU**, which actively mixes **information technology, interactive design, and art**. A research-based institution, the SFU School of Interactive Arts and Technology has over 1000 undergrads and 100 graduates & PhDs. **Conduct funded research** and **supervise graduates** and PhDs and active on graduate, research and school issues via my leadership work on committees.

**Adjunct Professor**, Univ. of British Columbia - Media and Graphics Interdisciplinary Centre (MAGIC) 2006 – present

### Visiting Faculty Stanford University **2000 - 2001**

As **lecturer** and then **visiting faculty** in the **Dept. of Art and Art History** was **invited to create and teach original courses** on **Interactive Narrative, The Illusion of Life: Facial Animation, and 3D Digital Production** to an interdisciplinary group of undergraduates, graduates, and PhDs. All courses had significant project-based outcomes. Helped grow the **Stanford Univ. Digital Arts Center (SUDAC)**, an interdisciplinary teaching laboratory (art,HCI,CS) in digital arts - “an academic space dedicated to the practical and theoretical exploration of information technology and art”. Working with the Director Greg Niemeyer, helped to make SUDAC a productive center currently offering 6 courses per year. All SUDAC courses were developed with an emphasis on project-based learning, which culminated in annual presentations of digital art in public spaces and of CG short feature animations.

~ See Industry Experience for work between 1992-2000 ~

### Research Scientist New York Institute of Technology (NYIT) **1984 - 1992** Computer Graphics Laboratory

As a **senior research staff** member of this **renowned computer animation research center**, participated in several initiatives in all aspects of computer animation R&D. Most researchers were both artists and technologists, creating and collaborating with visiting artists Peter Gabriel, Kraftwerk, Twyla Tharp, Frank Stella and Philip Pearlstein.

- Designed and implemented an interactive 3D facial modeling & animation system, used in award winning projects.
- Authored several papers on 3D computer facial and character animation. (See papers and lectures section.)
- Animated and directed research pieces screened at SIGGRAPH juried film shows every year from 1984-89.
- Technical art director for many commercial & art animation projects appearing in films, TV, and music videos.
- As adjunct faculty with NYIT, supervised graduate students in projects and taught computer graphics courses.
- Architect of proposed 3D Student Lab, an interdisciplinary facility offering coursework for artists and engineers.

## INDUSTRY EXPERIENCE:

### Consultant Highlights

- **Eastman Kodak** - Expert consultant with research group on recording of digital personas.
- **Institute for the Future** - Invited expert on "The Future of Identity" for their Fortune 500 report and conference.
- **Electronic Arts/Maxis** - Created facial creation system for the simulation game, "The Sims" using my theories on expression systems and my research on genetically generated faces. "The Sims" became the #1 selling game of 2001.

### Chief Technology Officer

### Apearance Technologies

2001 - 2002

**Co-founder of San Francisco start-up**, which used my research in **3D facial animation and communication** to create a software API product for web-based communication, interactive cinema and electronic games. A prototype of this software was used to create a facial creation system for Maxis' game, "The Sims".

### V.P. Creative Development

### Muse Communications

2000 - 2001

**Directed Creative Development.** Muse is **creating a next generation, broadband platform** that integrates multiple technologies such as HTML, rich media, 3D graphics, and multi-user community into a unified, synergistic environment.

### Creative Director

### Saatchi & Saatchi Interactive (Darwin)

1997 - 1999

**As Creative Director, founded and co-ran the San Francisco office of Saatchi & Saatchi Interactive.**

- Darwin is the interactive innovation arm of Saatchi & Saatchi. Working independently & with Saatchi. Darwin's **mandate is to explore strategic applications of emerging technologies.**
- With business partner, developed the independent SF office to almost 20 employees with positive earnings.
- Won business of Hewlett-Packard, PeopleSoft, SJ Mercury Times, Macromedia, eTrade and others.

**Created award-winning work with strengths in creative, strategic and technical areas:**

- HP Palmtop Tour, first commercial site to include interactive characters.
- Kayak Decision Assistant a tool for e-purchasing HP computers. Awards by Macromedia: best use - database driven Flash, & Communication Arts.

### Director of Development

### Communities.com

1999 - 2000

### Creative Director & Architect

### OnLive! Technologies (now part of Communit.es.com)

1994 - 1997

**Directed the high end OnLive division** specializing in: **broadband, 3d & audio based virtual communities.**

- Team included: 2D/3D artists, web & UI designers, audio experts, production managers and programmers.
- Defined artistic, functional and overall direction of entire 3D product and worlds including:
  - 3D world and avatar design, web site production, content programming, UI design, VR paradigms.

**Co-Designed OnLive Traveler software, environments and avatars:** <http://www.digitalspace.com/>

- OnLive's highly acclaimed Internet-based 3D Virtual World software and communities allow groups of people to socialize by navigating through 3D spaces while talking with their own voices via emotive, lip-syncing, 3D head avatars. Traveler's sites have including: ABC Sports, MTV Tikkiland, NEC (Japan) and MCA/Universal.
- Considered one of the leading software innovations for the PC, Traveler has been written up in or broadcast on:
  - The New York Times    Wall Street Journal    -    Demoed on stage by both Bill Gates & Andy Grove.
  - Wired Magazine        USA Today                    -    Discovery Channel    MSNBC's The Site    c/net Central

### Computer Animation Director

### Electronic Arts

**Advanced Technology Group 1992- 1994**

**Managed a large group of 2D / 3D artists on two cross-platform CD-ROM projects:**

- Established SGI based environment (7 Alias seats) and upgraded artists' skill set to 3D production standards.
- Researched, developed and wrote plan for all art processes including:
  - Large scale SGI-based 3D character animation generation with automatic lip-sync strategies.
  - Motion capture, video, audio and music recording sessions. Plus watercolor & ink processing batch tool.
- Co-Designed & produced 3D Atlas - To date over 2 million units sold. Garnished major awards and top reviews.

**Company-wide expert for Electronic Arts on 3D animation and multimedia:**

- Developed company wide 3D character and motion capture strategies.
- Defined cross-platform strategies and multi-project tool needs to acquire or develop in-house.

## WRITTEN, LECTURE AND EXHIBITED WORK:

### Journals: Authored ( \* - Juried)

- DiPaola S, Riebe C, Enns J, "Following the masters: Portrait viewing and appreciation is guided by textural detail", Journal of Experimental Psychology, 40 pages, submitted.
- DiPaola S, Turner J, Browne P, "A Case Study of Expression-based Creation within 3D Virtual Communities", International Journal of Web-Based Communities, in press.\*
- DiPaola S, Riebe C, Enns J, "Rembrandt's Textural Agency: A Shared Perspective in Visual Art and Science", Leonardo, Vol 43, No 3, pp 145-151, 2010.\*
- Riebe C, DiPaola S., & Enns J, "Following The Masters: Viewer Gaze is Directed by Relative Detail in Painted Portraits", Journal of Vision, Vol 9, No 8, pp 368 (abstract), 2009. \*
- Arya A, DiPaola S, Parush A, "Perceptually Valid Facial Expressions for Character-based Applications", International Journal of Computer Games Technology, Vol 2009, Article ID 462315, pp 1-13, 2009. \*
- DiPaola S, Gabora L, "Incorporating Characteristics of Human Creativity into an Evolutionary Art Algorithm", Genetic Programming and Evolvable Machines Journal, Vol 10, No 2, pp 97-110, 2009. \*
- DiPaola S, "Exploring a Parameterized Portrait Painting Space", International Journal of Art and Technology, Vol 2, No 1-2, pp 82-93, 2009. \*
- DiPaola S, Turner J, "Authoring the Intimate Self: Identity, Expression and Role-playing within a Pioneering Virtual Community", Loading: Journal of the Canadian Games Studies Association, Vol 2, No 3, pp 1-14, 2008. \*
- DiPaola S, "Computationally Rendered Painterly Portrait Spaces", Artciencia: Art & Science Journal, Vol 4, No 9, pp 1-8, October-January, 2008. \*
- DiPaola S, "Darwin's Enduring Legacy" – Images of my research in "computer model of evolution acting on the painting, ..." selected by the Nature editors to accompany this essay (invited, not peer reviewed). The Journal Nature, Vol 451, pp 632-633, Feb, 2008.
- DiPaola S, Akai C, "Blending Science Knowledge and AI Gaming Techniques for Experiential Learning", Loading: Journal of the Canadian Games Studies Association, Vol 1, No 1, pp 1-9, 2007. \*
- Arya A, DiPaola S, "Face Modeling and Animation Language for MPEG-4 XMT Framework", IEEE Transactions on Multimedia, Vol 9, No 6, pp 1137-1146, 2007.
- DiPaola S, Akai C, Kraus B, "Experiencing Belugas: Developing an Action Selection-Based Aquarium Interactive", Adaptive Behavior - Animals, Animats, Software Agents, Robots, Adaptive Systems (Special Issue on Action Selection), Vol 15, No 1, pp 99-113, 2007. \*
- Arya A, DiPaola S, "Multi-Space Behavioral Model for Face-based Affective Social Agents", Journal of Image and Video Processing. Special Issue on Facial Image Processing, Vol. 2007, Article ID 48757, pp 1-12, 2007. \*
- Arya A, Enns J, Jefferies L, DiPaola S, "Facial Actions as Visual Cues for Personality", Computer Animation and Virtual Worlds (CAVW) Journal, Vol 17, No 3-4, pp 371-382, 2006. \*
- DiPaola S, "Artificial Intelligence Systems in New Media Art and Design", Artciencia: Art & Science Journal, Vol 2, No 4, pp 1-8, August-October, 2006. \*
- DiPaola S, "Extending the Range of Facial Types", IEEE Journal of Visualization and Computer Animation, Vol 2, No 4, pp 129-131, 1991.\*

### Books & Book Chapters: Authored

- DiPaola S, Sorenson N, "Cartesian Genetic Programming, Creativity and Art", Book Chapter, Cartesian Genetic Programming. Editor: Miller J, 22 pages, in press.
- DiPaola S, "Designing Socially Expressive Character Agents to Facilitate Learning ", Book Chapter, Educational Gameplay and Simulation Environments, Editors: Kaufman D, Sauvé L, pp 213-230, 2009.
- DiPaola S, Computer Facial Animation, by Parke F, Waters K, 2<sup>nd</sup> Edition, AK Peters, Book Excerpt, pp 133-136, 225-251, 368-369. 2008.
- DiPaola S, Avatars, by Damer B, Peach Pit Press, Book Excerpt, pp 193-234, 446-448, cover/back art. 1998.
- DiPaola S, Computer Facial Animation, by Parke F, Waters K, AK Peters, Book Excerpt, pp 101-104, 214-219, cover artwork. 1996.

### Conference Papers: Authored ( \*: Juried)

- DiPaola S, "Face, Portrait, Mask – Using a Parameterized System to Explore Synthetic Face Space", Proceedings of Electronic Visualisation and the Arts, 7 pages, London, 2010. \*
- Dalvandi A, Amini P, DiPaola S, "Exploring Persian Rug Design Using a Computational Evolutionary Approach", Proceedings of Electronic Visualisation and the Arts, 8 pages, London, 2010. \*
- DiPaola S, "Darwin, Creativity, and Evolutionary Programming", 150 Years after Origin: Biological, Historical and Philosophical Perspectives, Proceedings of Canadian Darwin Conference, University of Toronto, 4 pages, 2009.

- DiPaola S, "Intelligent Expression-based Character Agent Systems", Proceedings of ACM Intelligent Virtual Agents, Springer, Amsterdam, Keynote Short Paper, 4 pages, September, 2009.\*
- Riebe C, DiPaola S., & Enns J, "Following the masters: Viewer gaze is directed by relative detail in painted portraits", Abstracts of the Vision Sciences Society, 9th Annual Meeting, #144, May, 2009.\*
- DiPaola S, "Quantifying artist's use of human vision constructs to influence viewer eye gaze," In Proc: SPIE Human Vision and Imaging, Int. Society for Optical Engineering, 6 pages, 2009.
- DiPaola S, "The Trace and the Gaze: Textural Agency in Rembrandt's Late Portraiture from a Vision Science Perspective", Proceedings of Electronic Visualisation and the Arts, 8 pages, London, 2008. \*
- Zammito V, DiPaola S, Arya A, "A Methodology for Incorporating Personality Modeling in Believable Game Characters", Inter. Conference on Games Research and Development (CyberGames), 8 pages, Beijing, China. 2008. \*
- DiPaola S, "Authoring the Global Self: Identity, Expression and Role-playing in Virtual Communities", Proceedings of CGSA (Canadian Game Studies Association) 2008, 8 pages, Vancouver, 2008. \*
- DiPaola S, Arya A, "A Framework for Socially Communicative Faces in Games and Interactive Applications", Proceedings of the 2007 Conference on Future Play, Toronto, Future Play '07, pp 129-136, ACM, New York, NY, 2007. \*
- DiPaola S, Gabora L, "Incorporating Characteristics of Human Creativity into an Evolutionary Art Algorithm", In Proceedings of the 2007 GECCO Conference Companion on Genetic and Evolutionary Computation (London., July 07 - 11, 2007). GECCO '07, pp 2450-2456., ACM, New York, NY, 2007. \*
- DiPaola S, "A Knowledge Based Approach to Modeling Portrait Painting Methodology", Proceedings of Electronic Visualisation and the Arts, 10 pages, London, 2007. \*
- DiPaola S, "Painterly Rendered Portraits from Photographs using a Knowledge-Based Approach", In Proc: SPIE Human Vision and Imaging, Int. Society for Optical Engineering, Keynote paper. pp 33-43, 2007. \*
- DiPaola S, Akai C, "Blending Science Knowledge and AI Gaming Techniques for Experiential Learning", Proceedings of CGSA (Canadian Game Studies Association) 2006, 8 pages, Toronto, 2006. \*
- DiPaola S, Arya A, "Emotional Remapping of Music to Facial Animation", In Proceedings of the 2006 ACM SIGGRAPH Symposium on Videogames (Boston). pp. 143-149, Sandbox '06. ACM, New York, NY, 2006. \*
- DiPaola S, Arya A, "Socially Communicative Characters for Interactive Applications," International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision, 8 pages, 2006. \*
- DiPaola S, "Evolving Portrait Painter Programs using Genetic Programming to Explore Computer Creativity", Proceedings of iDMAa Conference (International Digital Media and Arts Association), 7 pages, 2006. \*
- DiPaola S, Akai C, "Designing Adaptive Multimedia Interactives to Support Shared Learning Experiences", In ACM SIGGRAPH 2006 Educators Program (Boston). 6 pages, SIGGRAPH '06. ACM, New York, NY 2006.\*
- Arya A, DiPaola S, Jefferies L, and Enns J, "Socially communicative characters for interactive applications," 14th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision (WSCG-2006), 8 pages, Czech Republic, January 30 - February 3, 2006. \*
- DiPaola S, Akai C, "Shifting Boundaries: the Ontological Implications of Simulating Marine Mammals", New Forms Festival Conference, Museum of Anthropology, 7 pages, Vancouver, 2005. \*
- DiPaola S, Arya A, Chan J, "Simulating Face to Face Collaboration for Interactive Learning Systems", Proceeding from E-Learn 2005, 6 pages, Vancouver, 2005. \*
- DiPaola S, "Evolving Creative Portrait Painter Programs Using Darwinian Techniques with an Automatic Fitness Function", Proceedings of Electronic Visualisation and the Arts, 10 pages, London. July. 2005. \*
- Tolmie J, DiPaola S, Charles A, "Towards an Interactive Visualization of Game Design Patterns", Digital Games Research Association, Vancouver, Canada, 2005. \*
- DiPaola S, Arya A, "Socially Expressive Communication Agents: A Face-centric Approach", Proceedings of Electronic Visualisation and the Arts, EVA-2005, 6 pages, Florence, Italy, March 17-18, 2005. \*
- DiPaola S, "Face, Portrait, Mask - the Virtuality of the Synthetic Face ", Old and New Forms Conference, Vancouver Art Gallery, 7 pages, Vancouver, 2004. \*
- DiPaola S, Dorash D, Brandt G, "Ratava's Line: Emergent Learning and Design Using Collaborative Virtual Worlds", In ACM SIGGRAPH 2004 Educators Program (Los Angeles, California, August 08 - 12, 2004). SIGGRAPH '04. 4 pages, ACM, New York, NY, 25. 2004. \*
- DiPaola S, Arya A, "Affective Communication Remapping in MusicFace System", Proceedings of Electronic Visualisation and the Arts, EVA-2004, 8 pages, London, England, July 26-31, 2004. \*
- Arya A, DiPaola S, "Face as a Multimedia Object", 5th International Workshop on Image Analysis for Multimedia Interactive Services, 5 pages, Lisbon, Portugal, April 21-23, 2004. \*
- DiPaola S, Collins C, "A Social Metaphor-based 3D Virtual Environment", In ACM SIGGRAPH 2003 Educators Program (San Diego, California, July 27 - 31, 2003). 2 pages, SIGGRAPH '03. ACM, New York, NY, 2003. \*
- DiPaola S, "Investigating Face Space", In ACM SIGGRAPH 2002 Conference Abstracts and Applications (San Antonio, Texas, July 21 - 26, 2002). SIGGRAPH '02. ACM, New York, NY, pp 207-207. 2002.\*

- DiPaola S, "FaceSpace: A Facial Spatial-Domain Toolkit", Proceedings of IEEE Information Visualization, London, pp 105-109, 2002. \*
- DiPaola S, Collins C, "A 3D Virtual Environment for Social Telepresence", Western Computer Graphics Symposium, '02, 7 pages, 2002.
- DiPaola S, Collins C, "A 3D Natural Emulation Design to Virtual Communities" , In ACM SIGGRAPH 99 Conference Abstracts and Applications (Los Angeles). pp 208-208, SIGGRAPH '99. 1999.\*
- DiPaola S, "3D Parameterized Facial Modeling & Animation", ACM Siggraph Facial Animation Tutorial, 1989.\*

### Grants and Awards

- 2007-09 Heritage Canada - New Media Network Fund – Primary Investigator (SFU) - \$1.4M (\$370K SFU), 2 Years – Creativity Assisted Technology for Gaming and Interactive Systems. With Seneca College, Univ. of Western Ontario.
- 2006-11 NSERC Discovery Grant - Primary Investigator - \$65K, 5 Years - Intelligent Character Systems
- 2006 Canada Parks / Heritage Grant - Research Collaborator - Intelligent Exhibit Design - Pacific Rim National Park
- 2005 Industry Grant - Primary Investigator - Vancouver Aquarium - ~\$10K - Interactive Marine Mammal Learning Systems.
- 2004 Industry Grant - Primary Investigator - Radical Entertainment - ~\$50K - Next generation intelligent facial system research.
- 2003-06 SSHRC Grant - Research Associate - \$4M, 3Yrs (partial) - Simulation and Advanced Gaming Environments (SAGE)
- 2003 WestGrid Grant - Research Associate - \$5M, 4Yrs (partial) - Collaborative Visualization Group under Jonathan Borwein.
- 2001-05 ASI Provincial Research Grant - Primary Investigator - \$120K, 4 years - 3D Facial Expression in Sciences and Arts.
- 2000-01 Industry Grant - Primary Investigator – Electronic Arts - \$75K – Genetic Programming Techniques for Facial Creation
- 1999 Smithsonian Institution's Permanent Research Collection of Information Technology (for Onlive Traveler).
- 1995 British Interactive Media Awards Gold Medal Winner, (for 3D Atlas).
- 1994 Emma Awards, Cannes Best International Product • Communication Arts Design Awards Best Educational Product.

### Art Exhibitions (Performance, New Media and Digital Work) (noteworthy shows highlighted)

- **Tenderpixel Gallery, “Computational Creativity”, One Person Show, London, 2010 (upcoming).**
- **University of Toronto, Inst. History and Phil of Science and Tech ( IHPST), Victoria College, Toronto, 2009.**
- **Cambridge University, Kings Art Centre, Evolving Darwin’s Gaze, One Person Show, Cambridge, U.K. 2009.**
- **MIT Museum, Evolving Darwin’s Gaze, Cambridge Science Festival, M.I.T, Cambridge, MA, 2009. Commissioned.**
- Vancouver Science World, The Creative Mind: Illusions and Perceptions & Modern Alchemists, part of a 4 invited artist exhibit, Vancouver, BC, Jan. 2009. Commissioned.
- Intersections Digital Studios Gallery, Emily Carr University,” Omar’s Act” - an ambient video using 3D Facial Animation and Stochastic Noise Perturbation, Commissioned for the opening of gallery - 3 person show, 2008. Commissioned.
- Digital Shrine at Parade of the Lost Souls, “someone\_who\_once\_was”, digital still, Vancouver, 2008, Juried.
- **SmartLab/Matrix East Exhibition Space, “Bringing Out the Ghost” - a 24 screen multimedia installation, London. 2008. Commissioned.**
- New Forms Festival, “Manifesto for the Future of the City”, Vancouver, Canada, 2008. Invited.
- **Time's Up Workspace Gallery, “Steve DiPaola: Facades”, One Person Show - NY, NY, 2007. Commissioned.**
- New Forms Festival, “Avatar@ArtCamp: unConference Diatribe”, Vancouver, Canada, 2006. Invited.
- Monegros Festival, "Kraftwerk Video & Set Installation ", Candanos, Spain, 2006. Commissioned
- **Code - Human Systems, Digital Bodies,"Evolved Portraits", Oxford, Ohio. 2006. Juried.**
- Computational Poetics - Logic Machines and Creative Process, "Poetics of Image" , Vancouver, Canada, 2006. Invited.
- **Kraftwerk World Tour, “Musique NonStop”, Video & Installation, Europe, Asia, Americas, 2005. Commissioned.**
- **Time's Up Workspace Gallery, Group Show, New York, NY, 2005. Commissioned.**
- New Forms Festival, “Muses” - Video Painting, Vancouver, Canada, 2004. Juried.
- **ACM Siggraph Art Show, “inside-out”, music & music generated animation art by DiPaola, LA, 2004 - Juried.**
- **A.I.R. Gallery, “Wish You Were Here”, New York, NY, (Sold Piece) July 2004 - Invited.**
- **A.I.R. Gallery, “Plays Well with Others”, New York, NY April 2004 - Commissioned.**
- New Forms Festival, “Concerto for Strings and Face - Music Generated Faces”, Vancouver, Canada, 2003. Juried.
- **Somar Gallery, “Exposure - multimedia show”, San Francisco, CA, 2003. Invited.**
- “The Nobel Wedding”, Physical/Virtual Interactive Performance, SFU Interactivity Lab Performance Space, Surrey, Canada, 2003. Juried grant/Collaboration.
- **Fashion Inst of Tech Gallery, “Ratava’s Line”, Physical/Virtual Interactive Performance, New York, NY, 2002.**
- Western Front Gallery, “Experimental Media Group Show”, Vancouver, Canada, 2002. Invited.
- “The Magic Cube”, Interactive Virtual Cube, Sigma Square Opening, Malmö, Sweden, 2001. Invited.
- **Stanford Department of Art Lobby, "Chasing Alice", 3D Interactive Performance, Stanford, California, 2000.**
- **Herbst Theater, Tapestry ' 99 Group Show, San Francisco, CA, 1999. Juried.**

- **Smithsonian National Museum of American History, Permanent Research Collection, Washington, DC, 1998. Juried.**
- **Anon Salon Gallery, Contact Consortium Show, San Francisco, California, 1997. Invited.**
- **Yerba Buena Center for the Arts, Interactive Performance “Virtual Voce”, San Francisco, California, 1997. Invited.**
- Digital Be-In, Invited Interactive Performance “Virtual Voce”, San Francisco, California, 1996. Invited Artist.
- Montage 93, International Festival of the Image, Rochester, New York, 1993. Juried.
- **“Image World: Art and Media Culture”, Whitney Museum of American Art, NYC (Contributor w/ Nam June Paik), 1989. Juried.**
- Siggraph '89, Film and Video Exhibition, 1989. Juried.
- **“Digital Explorations ... Emerging Visions in Art”, Tibor de Nagy Gallery, NYC, (Co-curator/artist), 1988. Juried.**
- **Image Du Futur, Montreal, Canada, 1988. Juried**
- Siggraph '88, Film and Video Exhibition, 1988. Juried.
- Atelier Grapoui, Brussels, Belgium, 1988. Juried.
- **“Computers and Art”, Everson Museum, Syracuse, New York; Juried  
Traveled to Cincinnati Contemporary Arts Center, Cincinnati, Ohio;  
IBM Gallery of Science and Art, New York, New York;  
Center for the Fine Arts, Miami, Florida 1987.**
- **Siggraph '87 Art Show, Anaheim, California, 1987. Juried.**
- Nouvelles Images de Monte Carlo, Monte Carlo, Monaco, 1987. Juried.
- Siggraph '87, Film and Video Exhibition, 1987. Juried.
- Nicograph '87, Nicograph, Tokyo, Japan, 1987. Juried.
- **Zagreb Animation Festival, Zagreb, Yugoslavia, 1987. Juried.**
- Parigraph Animation Festival, Paris, 1986. Juried.
- Siggraph '86, Film and Video Exhibition, 1986. Juried.
- Nouvelles Images de Monte Carlo, Monte Carlo, Monaco, 1986. Juried.
- Siggraph '85, Film and Video Exhibition, 1985. Juried.

## Reviews (of artwork or research work)

### - Popular Press: (selected recent)

- Vancouver Observer, “Cetaceans in captivity: An SFU researcher may have a solution”, July 2010
- Scientist Discover Magic of Rembrandt : It is in the Eye Gaze –> 200 articles in Press, Radio and TV in 14 countries including
  - Globe&Mail, Vancouver Sun , Toronto Sun, The Province, Montreal Gazette, Winnipeg Free Press, Métro Montréal , TruroDaily News, Oxford Science News
  - CBC TV, Discovery Channel, Nation Public Radio, newstalk1010, Live Science, Science News Daily, yahoo.com, physorg.com, esciencenews.com, scienceblog.com , boingboing.net
- CityTV, Two TV news features on my research and its humanistic approach to technology, - March, 2004.
- The Vancouver Sun, “BC innovative thinkers” where I was discussed under Computer Science. 2004.
- The Vancouver Sun, “The Changing Face of E-Mail”, pg B2-B3 - Article on my work - February 20, 2004.
- Women’s Wear Daily, “Partnership Gives Design an Upgrade” By Valerie Seckler, April 23, 2003.
- The Now Newspaper, “Simulating the Future” (Article on my human approach to technology), Jan. 24, 2002.
- The New York Times, “Put Your Face in the Line of Fire...” by Jeffrey R Young, August 14, 2001.
- The New York Times, “The Internet in Three Dimensions”, November 25, 1996.
- Also TV: Scientific American Discovery Channel MSNBC’s The Site c|net Central  
Press: Wall Street Journal Wired Magazine USA Today Newsweek  
Work demonstrated on stage by both Bill Gates (Microsoft) and Andy Grove (Intel).

### - Critical Press:

- Interdisciplinary Perspectives on Multimodality: Theory and Practice. By Baldry & Montagna(eds.), Palladino. My Virtual Worlds research is discussed in the chapter "Multimodal Learning Conversations Online", 2007.
- ArtSEEN Magazine, "Another way of being", Article on my Stanford interactive narrative work. Issue 3, 2006.
- SECOND NATURE: Reproduction and the Artificial in Art, Science and New Media, my evolutionary art and AI systems are discussed; "Biomimetics: Emulation and Propagation in Post-traditional Ecologies", 2006.
- Evolutionary Art by P Machado and J Romero, evolutionary artwork is discussed and shown in the book. 2006.
- UBC eStrategy News & BC.NETwork News, "Simulated Gaming for Medical Learning" June & July 2005.
- Avatara, a DVD documentary about DiPaola’s 3D community Traveler by Turner, Mancini, Harrison. Shown at international art galleries, film festivals, and conferences. 2003 See <http://www.flickharrison.com/avatara/>
- President’s Unconventional Learning Report, Simon Fraser University 2003. See <http://www2.sfu.ca/report2003/Learning/unconventionalllearning-fashion.htm>
- Chronicle of Higher Education, “Information Technology: Haute Cyber” by Jeffrey R Young, May 30, 2003.

- Higher Learning Magazine, “Virtual Faces Deliver Emotion to Your Inbox”, Mar-Apr 2003.
- Communication Arts, “New in New Media Design”, ( Article on our HP Design), 2000
- Sculpture Magazine, “Special Installation Issue”, March/April 1990.
- Computer Graphics World, “Computers and Fine Art”, (Cover Art & Lead Story), October 1988.

## Lectures & Presentations ( selected: \* - Juried, \*\* - Invited)

- **2009 talks at: UBC, MIT (2), Harvard University, Cambridge University, Keynote: IVA09, ...**
- **2008 talks at: Adobe Research, Stanford University, Google, HP Labs, Keynote: ETUG, ...**
- Cambridge University - Rainbow Research Group Seminar, Computer Laboratory, “Intelligent Systems for Characters, Creatures and Creativity: An Interdisciplinary Approach”, Cambridge, 2007. \*\*
- University of East London – SMARTlab Digital Media Institute (PhD), “Cognitive based Interactive Systems”, 2007.
- Biosciences "Les Ecologistes" seminars, speaker, “AI Marine Mammal Simulation”, Biological Sciences, SFU, 2006. \*\*
- Seneca College Office of Research & Innovation, invited, "Intelligent Systems in Gaming and Art", York Univ 2006. \*\*
- Emily Carr Institute of Art and Design, "Interdisciplinary Research in the Age of Virtuality", Speaker, Vancouver, 2006. \*
- American Zoological Association (AZA) Western Regional Conf., "New Ways: Multimedia Design", Vancouver, 2006. \*
- New Media BC, Workshop Series, "Research and Gaming", Invited Panelist, UBC Robson Square, Vancouver, 2006. \*\*
- Electronic Arts CA, Invited Speaker Series, "Research in intelligent interactive systems: Creatures & creativity", 2005. \*\*
- Upgrade Lecture Series, "Digital Portraiture in the Age of Virtuality", Vancouver, 2005. \*\*
- Museum of Anthropology, "ECO SYSTEMS: Negotiating Natural, Cultural and Technological Systems in a Post-traditional Ecology", New Forms Festival, Invited Panelist, Opening Panel, Vancouver, 2005. \*
- BCNET Advanced Networks Conference, “Simulation & Advanced Gaming Envir. for Learning, Vancouver, 2005. \*
- University College London, Evolutionary Algorithms Research Group, “Intelligent systems.”, London, 2005. \*\*
- Royal College of Art, Interaction Design Seminar invited talk : Short listed candidates for Head of Graduate Department Interaction Design, “Intelligent Systems in Art and Design”, London, 2005. \*\*
- Cambridge University - Rainbow Research Group Seminar, Computer Laboratory, “Socially-Based 3D Interactive Visualization”, Cambridge, 2004. \*\*
- Arup Foresight and Innovation - Research Group, London, “Socially-Based 3D Interactive Visualization”, 2004. \*\*
- Girl Power and Aboriginal Summer Camp, Simon Fraser University, Surrey, “Multimedia and Identity”, 2004. \*\*
- U-Explore Lecture, Simon Fraser Univ., “The Age of Virtuality: Future of Identity, Community & Ownership”, 2004. \*\*
- Advanced Systems Institute, SpotLight Series, “Future of Identity & Ownership in the Age of Virtuality”, 2003. \*\*
- Computing Science Seminar, Invited Speaker, “Socially-Based 3D Interactive Visualization, SFU, 2003. \*\*
- Research Colloquium, “Socially-based interactive expression systems”, Simon Fraser University, Surrey, 2003.
- Multi-disciplinary Collaborations Roundtable, Invited Panelist, (Virtual), Fashion Institute of Technology, NY, 2003. \*\*
- Computer-Assisted Math & Advanced Collaboration Conf., “3D Virtual Environments”, Simon Fraser Univ., 2002 \*\*
- Centre for Experimental & Constructive Math, “Virtual Laboratories: CoLab in 3D”, Simon Fraser Univ, 2002. \*
- Knowledge Web Forum, James Burkes’ open knowledge conference, Invited Speaker, Seattle, WA, 2002. \*\*
- Comdex '01 - Invited Speaker, “The Future of Interactive Entertainment”, 2001. \*\*
- Siggraph '01 - Panelist on "Designing Experience: Emerging Trends in Experience Based Environments", 2001. \*
- Stanford Univ. Center: Study of Language & Information, "Gesture & Narrative Creation: Virtual Comm.", 2001. \*\*
- UCLA Design | Media Arts, "Internet-based Interactive Character Design: From Agents to Avatars", 2001. \*\*
- Stanford Seminar on People, Computers, and Design, "Emerging Interactive Expression Systems", 2001. \*\*
- Annenberg Center for Communication, Panelist on "The Audience Takes Over: Participant as Collaborator”, 2001. \*
- Interactive Age Conference '01, USC, Panelist: “Self-Authorship: Role-Playing Games & Avatar-Based Worlds”, 2001. \*
- UC Berkeley, Human Centered Computing Lectures - “Immersive Natural Metaphors in Virtual Communities”, 2000. \*\*
- Siggraph '00 - Panelist on “Interactive Storytelling: New Genres & Directions”, 2000. \*
- Stanford Learning Lab - “A Real-time Group Communication System using Immersive Natural Metaphors”, 2000. \*\*
- Stanford Seminar on People, Computers & Design - “Internet Character Design: From Agents to Avatars”, 1999. \*\*
- Siggraph '99 - Presented paper "A 3D Natural Emulation Design to Virtual Communities", (Sketch Section), 1999. \*
- Institute for the Future '99 (Fortune100 think-tank) - Invited speaker, "The Evolution of Identity in Cyberspace", 1999. \*\*
- Siggraph '98 - Moderator/speaker of the panel "Characters on the Internet, The Next Generation", 1998. \*
- Siggraph '97 - Panelist on "Putting a Human Face on Avatar CyberSpace", 1997. \*
- CHI '97 - with B. Damer - Led a full day, hands-on course on “Immersive UI and Virtual Communication”, 1997. \*
- Virtual Reality Universe '97 - Moderated panel on "Avatar Technologies and Applications", 1997. \*
- Virtual Humans '97 - Panelist on "Designing 3D Avatars", 1997. \*
- Avatars '97 - Panelist on "Grand Tour of the Virtual Landscape" & moderator on "Avatar Physiognomy Design", 1997. \*
- Siggraph '96 "Digital Bayou" - Invited technology exhibitor to this juried Technology Showcase, 1996. \*

- Siggraph '89 - Invited course lecturer, "State of the Art in Facial Animation" (film and video show contributor), 1989.

## ACADEMIC RESEARCH WORK & SERVICE:

### University Courses Taught and Developed:

- **New York Institute of Technology, Computer Graphics Lab**  
Advanced Computer Graphics - Graduate Supervisor - Fall 90 - Winter 91
- **Stanford University, Department of Art (Stanford University Digital Art Center)**  
Art 175 C Digital Narrative Production (co-taught) Spring 01  
Art 173A The Illusion of Life: Facial Animation Winter 01 (co-listed with Computer Science)  
Art 173 Interactive Digital Narrative Fall 00: (co-listed with Computer Science)
- **Simon Fraser University, School of Interactive Arts & Technology** (formerly TechBC)  
Note: Develop & teach courses in both Science and Artistic concentrations.

### Undergraduate Courses:

ITEC 322	Introduction to Computer Animation	Fall 01,02,03,04
ITEC 323	Advanced Computer Animation Method	Fall 01,02, 03,04
IART 416,417,418, now 445	Immersive Environments	Spring 03,04,05,07,08,09,10
IART 219,220,221 (241 now 343)	Animation	Spring 02,03,04, f05,06, f09
IAT 342	Adv Animation	Fall 05,06

### Graduate Courses:

IART 607,694	Designing Virtuality	Fall 01,02, 04
IART 605, 609	Authoring Methodologies	Spring 02,03
ITEC 614	3D Computer Animation	Spring 03,04
IAT 811	Computational Poetics	Spring 05
IAT 800	Computational Art and Design	Fall 07
IAT 813	Artificial Intelligence (SIAT)	Fall 08,09

### Graduate & Research Supervision:

Supervise or co-supervise (committee) the following Post Docs, Masters and PhD students.  
Most students explore their research via the Interactive Visualization Lab - iVizLab, that I direct:

### Post Doc Supervision:

- Ali Arya **Facial Animation and Communication** Postdoctoral Research Associate 03 - 06  
(now an Assistant Professor of Computer Science at Carleton University, 2006)

### Graduate & PhD Supervision (or committee):

#### Senior Supervisory Duties of a Thesis/Dissertation/or Major Project ---

Saberi, Maryam	Ph.D.	TBD: Computer Modelling of Expression and creativity	2009-2	
McIntosh, Lorne	M.Sc.	Character based Motion Planning for Physically-Simulated BDI-Agents w/Spacetime	2009-1	
Seifi, Hasti	M.Sc.	Cognitive Depiction Rendering for Computer Facial Systems	2009-1	
Sorenson, Nathan	M.Sc.	Automatic Game Level Design using a Creative Genetic Algorithm Technique	2008-3	
Zammitto, Veronica	M.Sc.	Towards Personality Demographic for Game Design	2006-3	
Lee, Kyung Jae	Ph.D.	Computer Facial Systems for Autism Research	2004-3	
Liu, Chen	M.Sc.	Analysis of the Current & Future of 3d Facial Animation Techniques & Systems	2006-3	2009-3
Akai, Caitlin	M.Sc.	Depth Perception in Real and Virtual Environments	2005-3	2007-3
Chen, Yingjie	M.Ap.Sc.	3D Interactive Visualization Techniques	Completed	2002-3 2005-1

#### Serving on a Committee of a Thesis/Dissertation/or Major Project ---

Lester, June	Ph.D.	Active	2008-3	
Turner, Jeremy	M.A.	Active	2008-3	
Hosseini, Malahat	M.A.Sc.	Place as Interface - Documentary in Digital Space	Completed	2003-1 2009-2
Ben-Yehuda, Efrat	M.A.	Exchange and Trust in Networked Communities	Completed	2005-3 2007-3
Shum, Sam	M.Ap.Sc.	Withdrawn	2004-2	2007-2
Chan, John	M.Sc.	A Platform for Online PBL Learning for Health	Completed	2003-3 2005-3
Dulic, Aleksandra	Ph.D.	Heteroform Org: Cinema of Braided Processes	Completed	2002-3 2005-3
Gibson, Rick	M.A.Sc.	Auto-Stereoscopic Display Systems	Completed	2003-3 2005-1

Undergraduate Research Supervision (Directed Studies and Research Assistants): ~ 10 students 03-present

## Active Service to the Academic Community

### Grant Reviews and Review Committees

- 2003 - 2009 Reviewer - NSERC, Reviewer over these years for many NSERC grants including Strategics, Discoveries, and New Media Grants.
- 2008 Grant Reviewer, Atlantic Innovation Fund
- 2007 Tenure Reviewer, Carlton University, Computer Science
- 2006 Tenure Reviewer, Miami University, Ohio

### Journal Reviewer

- 2010 Paper Reviewer, IEEE Computer Graphics and Applications
- 2007 - 2010 Paper Reviewer, International Journal of Computer Games Technology (07,09,10)
- 2009 Paper Reviewer, International Journal of Arts and Technology (IJART)
- 2008 Paper Reviewer, Marine Mammal Science Journal
- 2007 - 2008 Paper Reviewer, Journal of the Canadian Game Studies Association (Loading) 07,08

### Board Member

- 2007 - 2009 Board Member, Canadian Game Studies Association
- 1998 - 2005 CCON Board Member, This non-profit supports special interest groups, holds conferences, including: Avatars - conf. on virtual communities; Digital Biota - conf. on engineering of biologically-inspired, synthetic organisms combining in evolutionary biologists and VLearn3D - an educational 3D virtual worlds conf. since 1999.

### Conference Board Member

- 2008 - 2010 Board Member, EvoStar - European Evolutionary Computation Conference (EvoMusArt)
- 2006 - 2009 Board Member, Electronic Visualization and the Arts Conference, London, UK
- 1998 - 2004 Board Member, VLearn3D - an educational 3D multi-user virtual worlds conference since 1999.

### Conference Reviewer

- 2010 Paper Reviewer, Eurographics - European Conference on Computer Graphics
- 2009 Paper Reviewer, ACM Creativity and Cognition
- 2007 - 2009 Paper Reviewer, Electronic Visualization and the Arts Conference 07.08.09
- 2007 - 2008 Paper Reviewer, Graphics Interface (07,08)
- 2007 Paper Reviewer, ACM SIGGRAPH Sandbox Game Conference
- 2007 Paper Reviewer, Computational Intelligence on Consumer Games and Graphics Hardware CIGPU
- 2007 Paper Reviewer, FuturePlay Conference

## Service to the Community At Large

- 2003 - 2010 Public Speaker, Ambassador: Science and Math Outreach, Give public talks (invited and volunteered) at scores of public events showing the wonderment of Science and Math at museums, events, universities (public events) and high schools including MIT Museum, Cambridge Science Festival, Vancouver Aquarium, Vancouver Science World, Darwin Festival at Cambridge UK, Google Tech Talks (online on YouTube) ... As well as science based radio and TV appearances:
- 2002 - 2010 Mentor, Computer Startups, Actively mentor (> 300 hours) new startup ventures in my field that have aboriginal or woman leads. Including animation company raventales.com, artistic lead Simon James of the Kwakwakuwakw nation as well as computer film venture "littlehuge Project Ltd" by CEO and visionary Kathie Wallace .
- 2002 - 2009 Speaker, Lab instructor, Empowering women and aboriginal youth in math and science. Volunteer for many events/labs including Girl Power Tech Summer Camps and Aboriginal Tech Summer Camps for several years at SFU Surrey over the summer. As well as active mentor of the SFU Women's Computer Game club.
- 2001 - 2008 Speaker, Speaker on the future of copyright and virtuality to academic and community groups including in Vancouver, Toronto, London and New York.