

STEVE DiPAOLA

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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	Interdis: Computer & Cognitive Science	Univ. of British Columbia, BC	2013
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:

Professor (Dir of Cognitive Science) Simon Fraser University 2001 - present
Professor, School of Interactive Arts and Technology
Graduate Chair, School of Interactive Arts and Technology
Director, Cognitive Science Program 2011-2012
2010-2012; 2013-2015 (sabbatical in between)
Associate Faculty, Program in Cognitive Science

Developing programs, curriculum and research in this new **interdisciplinary school of SFU**, which actively mixes **science, interactive design, and art**. A research-based institution, the SFU School of Interactive Arts and Technology has over 800 undergrads and 120 graduates & PhDs. **Conduct funded research** and **supervise graduates** and PhDs and active on graduate, research and school issues.

Adjunct Researcher, 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 (Peer reviewed)

- Carlson K, Schiphorst T, & DiPaola S, Moving Collaborations: A Critical Inquiry Into Designing Creative Interactive Systems for Choreography. *EAI Journal of Creative Technologies*, Special Issue: Intelligent Technologies for Interactive Entertainment, Vol 16, No 6, 10pages. 2016.
- Etemad A, Arya A, Parush A, DiPaola S, "Perceptual validity in animation of human motion", *Computer Animation and Virtual Worlds Journal*, Vol 27, No 1, pp 58–71. 2016.
- DiPaola S, "Using a Contextual Focus Model for an Automatic Creativity Algorithm to Generate Art Work", *Procedia Computer Science*. Special Issue: Bio Inspired Cognitive Architectures, Vol 41, pp. 212-219. 2014.
- Saberi M, Bernardet U, & DiPaola S, "An Architecture for Personality-Based, Nonverbal Behavior in Affective Virtual Humanoid Character", *Procedia Computer Science*. Special Issue: Bio Inspired Cognitive Architectures, Vol 41, pp. 204-211. 2014.
- Karimaghalou N, Bernardet U, DiPaola S, "A Model for Social Spatial Behavior in Anthropomorphic Virtual Characters", *Computer Animation and Virtual Worlds Journal*, Vol 25, No 3-4, pp 507–519, 2014.
- DiPaola S, Riebe C, Enns J T, "Following the masters: Portrait viewing and appreciation is guided by selective detail", *Perception*, Vol 42, No 6, pp 608–630, 2013.
- McIntosh L, Riecke B, DiPaola S, "Efficiently Simulating the Bokeh of Polygonal Apertures in a Post-Process Depth of Field Shader", *Computer Graphics Forum*. Vol 31, No 6, pp 1810-1822, 2012.
- Seifi H, DiPaola S, Arya A, "Expressive Animated Character Sequences Using Knowledge-based Painterly Rendering", *International Journal of Computer Games Technology*, vol. 2011, Article ID 164949, 7 pages, 2011.
- Sorenson N, Pasquier, P, DiPaola S, "A Generic Approach to Challenge Modeling for the Procedural Creation of Video Game Levels", *Transactions on Computational Intelligence and AI in Games*, Vol 3, No 3, pp 229-244, 2011.
- DiPaola S, Turner J, Browne P, "Binding the pair: making a historical case for avicentric self-expression within 3D virtual communities", *International Journal of Web-Based Communities*, Vol 7, No 2, pp 157-173, 2011.
- 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 368-368 (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, 13 pages, 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, 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

- Turner J, Bernardet U, Nixon M, DiPaola S, "Integrating Cognitive Architectures into Virtual Character Design", Book, IGI Global, 2016. <http://www.igi-global.com/book/integrating-cognitive-architectures-into-virtual/146983>

- DiPaola S, "Face, Portrait, Mask - Using a Parameterized System to Explore Synthetic Face Space", Book Chapter, *Electronic Visualisation in Arts and Culture*, Bowen, Keene, Ng, (Eds), pp 213-227, Springer, 2013.
- DiPaola S, Sorenson N, "Cartesian Genetic Programming, Creativity and Art", Book Chapter, *Cartesian Genetic Programming*. Editor: Miller J, pp 293-306, Springer, 2011.
- 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, 2nd 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 (Peer reviewed)

- Bernardet U, Chollet M, DiPaola S, Scherer, S. An Architecture for Biologically Grounded Real-time Reflexive Behavior. In *Intelligent Virtual Agents* (in press). Lecture Notes in Computer Science. Springer. 2016
- Bernardet U, Saberi M, DiPaola S, Simulink Toolbox for Real-time Virtual Character Control. In *Intelligent Virtual Agents* (in press). Lecture Notes in Computer Science. Springer. 2016
- Cuykendall S, Soutar-Rau E, Schiphorst T, DiPaola S, "If Words Could Dance: Moving from Body to Data through Kinesthetic Evaluation", *Proceedings: ACM Conference on Designing Interactive Systems*, pp. 234-238, 2016.
- Bernardet, U, Adhia D, ... DiPaola S, ... Schiphorst T. (2016). m+ m: A novel Middleware for Distributed, Movement based Interactive Multimedia Systems, *Proc: Movement and Computing, ACM*. pp.21-30, 2016.
- Salevati S, DiPaola S, Carlson K, Movement Awareness through Emotion Based Aesthetic Visualization, *Proceedings of Electronic Visualisation and the Arts*, British Computer Society, 8 pages, London, 2016.
- McCaig R, DiPaola S, Gabora L, "Deep Convolutional Networks as Models of Generalization and Blending Within Visual Creativity", *Proceedings of International Conference on Computational Creativity*, 8 pages, 2016.
- DiPaola S, McCaig R, "Using Artificial Intelligence Techniques to Emulate the Creativity of a Portrait Painter", *Proceedings of Electronic Visualisation and the Arts*, British Computer Society, 8 pages, London, 2016.
- Bernardet U, DiPaola S, "A Framework for Exogenous and Endogenous Reflexive Behavior in Virtual Characters", *International Conference on Intelligent Virtual Agents*, pp. 132-136, Springer. 2015.
- Saberi M, Bernardet U, & DiPaola, S, "Effect of a Virtual Agent's Contingent Smile Response on Perceived Social Status. *International Conference on Intelligent Virtual Agents*", pp. 488-491, Springer. 2015.
- Choi S K, DiPaola S, "Touch of the Eye: Does Observation Reflect Haptic Metaphors in Art Drawing?", *Proceedings of ACM Conf on Human Factors in Computing Systems* (CHI '15), pp 579-588, 2015.
- Bayatpour S, Bernardet U, DiPaola S, Kitson A, & Riecke B, (2015). "Exploring Facial Expressions for Human-Computer Interaction: Combining Visual Face Tracking and EMG Data to Control a Flight Simulation Game". *ISEA 21st International Symposium on Electronic Art (ISEA)*, Vancouver, 6 pages. 2015.
- Song M, DiPaola S, "Exploring Different Ways of Navigating Emotionally-responsive Artwork in Immersive Virtual Environments", *Proceedings of Electronic Visualisation and the Arts*, British Computer Society, 8 pages, London, 2015.
- Salevati S, DiPaola S, "A Creative Artificial Intelligence System to Investigate User Experience, Affect, Emotion and Creativity", *Proceedings of Electronic Visualisation and the Arts*, British Computer Society, 8 pages, London, 2015.
- Salevati M, DiPaola S, "Enhancing Viewer's Emotional Connections to The Traditional Art Creative Process Via an AI Interactive System", *Proceedings of Electronic Visualisation and the Arts*, Florence, 8 pages, 2015.
- DiPaola S, "Computer Modelling Fine Art Painting using a Cognitive Correlative Heuristics Approach", *Proceedings of Biologically Inspired Cognitive Architectures*. 5 pages. MIT, MA, 2014.
- Bernardet U, DiPaola S, "Affective Response Patterns As Indicators of Personality in Virtual Characters", *Proceedings of Biologically Inspired Cognitive Architectures*. 2 pages. MIT, MA, 2014.
- Carlson K, Schiphorst T, DiPaola S, "Collaborative Choreography: A Critical Inquiry into Designing Creative Interactive", *Proceedings of Intelligent Technologies for Interactive Entertainment*, (Springer Lecture Notes Book), V 136, pp. 46-56, 2014.
- Bernardet U, DiPaola S, "Affective Response Patterns as Indicators of Personality in Virtual Characters", *Proceedings of the Cognitive Science Society*, 2 pages, Québec City, 2014.
- Salevati M, DiPaola S, "Using a Creative Evolutionary System for Experiencing the Art of Futurism", *Proceedings of Electronic Visualisation and the Arts*, Florence, Italy, 8 pages, 2014.
- DiPaola S, McCaig R, Carlson K, Salevati S, & Sorenson N, "Adaptation of an Autonomous Creative Evolutionary System for Real-World Design Application Based on Creative Cognition", *Proceedings of International Conference on Computational Creativity*, pp 40-4, 2013.
- Bizzocchi J, Nixon M, DiPaola S, & Funk N, "The Role of Micronarrative in the Design and Experience of Digital Games", *Proceedings of Digital Games Research Association Conference (DIGRA)*, Atlanta, Georgia, pp. 161-197, 2013.

- Choi S K, DiPaola S, “How a Painter Paints: An Interdisciplinary Understanding of Embodied Creativity”, Proceedings of Electronic Visualisation and the Arts, pp. 127-134. British Computer Society, London, 2013.
- DiPaola S, Smith A, “Interactively Exploring Picasso's Multi-dimensional Creative Process in Producing Guernica”, Proceedings of Electronic Visualisation and the Arts, pp. 25-31. British Computer Society, London, 2013.
- Fortin C, DiPaola S, Hennessy K, Bizzocchi J, and Neustaedter C, “Medium-Specific Properties of Urban Screens: Towards an Ontological Framework for Digital Public Displays”, Proceedings of the ACM Conference on Creativity and Cognition, 10 pages, 2013.
- Gabora L, DiPaola S, "How Did Humans Become So Creative? A Computational Approach", Proceedings of International Conference on Computational Creativity, pp 203-211, 2012.
- Seifi H, DiPaola S, Enns J, "Exploring the Effect of Color Palette in Painterly Rendered Character Sequences", International Symposium on Computational Aesthetics in Graphics, Visualization, & Imaging, pp 89-97, 2012.
- DiPaola, S, “Computationally Modeling Creativity: Implementation And Response To A Computer Being Creative On Its Own”, Proceedings of Conceptual Structure, Discourse and Language, 7 pages, 2012.
- DiPaola, S, Smith A, “Formalizing An Interconnected Syntax For Picasso’s Creative Process In Producing Guernica”, Proceedings of Conceptual Structure, Discourse and Language, 6 pages, 2012.
- Choi S K, DiPaola, S, Schiphorst T, “The Tacit And The Trace: Towards Syntax Of The Creative Act”, Proceedings of Conceptual Structure, Discourse and Language, 6 pages, 2012.
- DiPaola S, “Face, Portrait, Mask – Using a Parameterized System to Explore Synthetic Face Space”, Proceedings of Electronic Visualisation and the Arts, pp. 296-302. British Computer Society, London, 2010.
- Dalvandi A, Amini P, DiPaola S, “Exploring Persian Rug Design Using a Computational Evolutionary Approach”, Proceedings of Electronic Visualisation and the Arts, pp. 121-128. British Computer Society, 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, pp 3-7, 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. (Not peer reviewed)
- DiPaola S, Collins C, "A 3D Natural Emulation Design to Virtual Communities" , In ACM SIGGRAPH 99 Conference Abstracts and Applications, pp 208-208, SIGGRAPH '99, Los Angeles, 1999.
- DiPaola S, "3D Parameterized Facial Modeling & Animation", ACM Siggraph Facial Animation Tutorial, 1989.

Grants and Awards

- 2014 NSERC Engage - Primary Investigator - \$25K, - "Improving engagement and learning within museums using user experience based interactive systems" w/ NGX Interactive.
- 2013 Canarie NEP (Network Enabled Platforms) Middle Ware Program, Co-Primary Investigator - \$550K, - Movement and Meaning: Research Middleware w/ PI Thecla Schiphorst
- 2012 SSHRC Institution partner grant "Moving stories: digital tools for movement, meaning and interaction" PI is Thecla Schiphorst of SFU. 4 years, ~\$2.2 M – I receive 5% of this grant.
- 2012 NSERC Engage - Primary Investigator - \$25K, - Formalizing Processes of Attention Cuing based on Character Behavior within Video Games w/ Electronic Arts
- 2010-11 NSERC Engage - Primary Investigator - \$25K, - Emotional & Expression based Character Sequences using Computer Painterly Rendering
- 2010-11 NSERC Engage - Primary Investigator - \$25K, - Artificial Intelligence Based Generative Design
- 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)

- Texture and Flow – AI based Art video (6 minutes), Film show at Electronic Literature Organization Conference, Victoria, BC, 2016. Juried

- **Hidden Pasts, Digital Futures: A Festival of Immersive Arts, Woodward's Experimental Theater, Bringing out the Ghosts, 3 monitor and stills work, Vancouver, 2015. Juried**
- **V&A Digital Futures (presented by Victoria and Albert Museum & Electronic Visualisation & the Arts), Reflections of Essence – Interactive, Networked Multi Projector work, LimeWharf, London, 2015. Juried.**
- **Computational Aesthetics Art Show, Blurred Lines “Portraits Triptych: Meaning and Process III”, Multi monitor multimedia Installation, Emily Carr University Gallery – co-located Conf. of ACM SIGGRAPH, 2014.**
- **Tate Modern, London, UK, “Kraftwerk 1 2 3 4 5 6 7 8 9“, our (Allen, DiPaola) cover art was hung in the museum; our 3D animated visuals were projected during the 9 nights of performances by Kraftwerk. The 25 yr old work was credited by the Kraftwerk but not formally at the museum. 2013. Commissioned.**
- **Museum of Modern Art, NY, “Kraftwerk 1 2 3 4 5 6 7 8 9“, our (Allen, DiPaola) cover art was hung in the museum; our 3D animated visuals were projected during the 9 nights of performances. The 25 yr old work was credited by Kraftwerk but not formally at the museum. 2012. Commissioned.**
- **Ancey Art Festival, part of CAe, Ancey, France, “Jane Portrait Series: Mixing Cognitive & Artistic Knowledge in a Generative Painting System”, France, 2012, Juried.**
- **Computational Aesthetics Art Show, “Swimming away from Darwin”, Interactive Installation, Vancouver – co-located Conf. of ACM SIGGRAPH, 2011.**
- **Emily Carr University of Art + Design, “Genetic Art Installation”, International Digital Media and Art Assoc (IDMAA), Vancouver, 2010. Juried.**
- **Tenderpixel Gallery, “Computational Creativity”, One Person Show, London, 2010. Commission.**
- **University of Toronto, Inst. History and Phil of Science and Tech (IHPST), Victoria College, Toronto, 2009. Commissioned.**
- **Cambridge University, Kings Art Centre, Evolving Darwin’s Gaze, One Person Show, Cambridge, U.K. 2009. Juried.**
- **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:

- Brown, Janet, Looking at Darwin: portraits and the making of an icon. Isis. Sept, Vol 100, No 3, pp 542-70, 2009.
 Note: Janet Brown (Harvard) is the foremost writer on Darwin. In this major journal article, she singles out my genetic programming/creativity work at MIT/Cambridge/UofT/London/the journal Nature, from page 1:
- “... Meanwhile, on the ... of Steve DiPaola, another mutating portrait is under way. Using algorithms drawn from genetic sequencing programs, this computer engineer/artist has grown a succession of abstract forms deriving from the well-known oil portrait of Darwin by the Victorian painter John Collier. Like the iron filings, the computer-generated processes play on the notion of change over time. Both installations allude to the closing words of Darwin's *On the Origin of Species*: “from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.”¹ In them, viewers encounter the passage of time and the transitory nature of life. More than this, the modes of production call to mind the processes that are being commemorated.
- 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)

- 2013 LISA – Leaders in Software Art Conference – Using Artificial Intelligence Software in Art, New York City Invited Speaker.
- 2013 Electronic Visualization and the Arts – London Invited **Keynote Speaker**.
- 2013 Defining Cognitive Science Series – SFU - Computationally modelling human expression and creativity.
- 2012 UBC - BrainTalks - Vancouver General Hospital. Computationally modeling creative and vision-based art.
- 2011 IRMACS Computer Modelling Series - Modeling human expression and creativity using cognitive based artificial intelligence
- 2011 UBC Psychology Series - Artificial Intelligence as a Toolkit for Interactive and Art Systems
- 2010 National Portrait Gallery, National Gallery, London, UK. Title: Science and Art: Vision, Perception and Creativity – via computer modeling techniques, scientists are gaining insight into the creative genius of portrait masters. Cognitive scientist Steve DiPaola will demonstrate how artists over thousands of years, have intuited knowledge of how the science of vision & perception work.
- 2009 Harvard Vision Sciences Laboratory, Harvard University, MA. Exploring creative & vision based artistic methodologies using computational approaches
- 2009 9th Intern. Conf. on Intelligent Virtual Agents, Amsterdam, **Keynote Talk**. Intelligent Expression and Cognitive Character Agent Systems: An Interdisciplinary Approach
- 2009 Cognitive Systems Seminar Series, Univ. of British Columbia, BC. Modeling facial, creativity and expression systems via computational approaches.
- 2009 Cambridge University's Darwin Conference (150 year anniversary), Kings College, Cambridge, UK. Darwin, Creativity and Evolutionary Programming
- 2009 MIT Museum, Cambridge Science Festival (largest science festival in US), **Keynote talk**, MIT, MA. Darwin, Artificial Intelligence and Creativity
- 2009 MIT Museum, One Person Show in collaboration with the CyberArts Boston 09, MIT, MA. Evolving Darwin's Gaze - Public Art Talk
- 2008 Adobe Research - Seminar Series, Adobe, Labs, San Jose, CA. AI and Cognitive based Imaging and Painterly Rendering
- 2008 HP Labs, Imaging Research Group, HP, Palo Alto, CA. Cognitive-based intelligent system for digital media
- 2008 Google Tech Talks, Google, CA (streamed/archived online at Youtube). Artificial intelligence and digital media
- 2008 Defining Cognitive Science series, Simon Fraser University, BC. Computationally modeling artistic creative process using cognitive and AI approaches
- 2008 ICE Toronto – The Interactive Content Exchange (March 26-28, 2008). Toronto, ON. Bridging the Gap: Connecting Ideas, Research and Business - panelist
- 2008 ETUG creativity conference, Emily Carr University, Vancouver, BC -- Plenary **Keynote Talk**. Computationally Modeling Human Creativity
- 2007 University of East London – SMARTlab Digital Media Institute (PhD program). Cognitive based Interactive Systems
- 2007 Cambridge University - Rainbow Research Group Seminar, Computer Laboratory, Cambridge University. Intelligent Systems for Characters, Creatures and Creativity: An Interdisc. Approach
- 2007 Stanford HCI Seminar Series (host Terry Winograd, CS Dept), Stanford University, CA. Research in intelligent interactive systems for 3D faces, creatures and creativity
- 2007 Dorkbot Speaker Series, Vancouver Dorkbot, BC. Hacking the human: using AI to model creativity, living portraits and new media systems.-- **15 More in 2006, and 2005**

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 445	Immersive Environments	Spring 03,04,05,07,08,09,10, f11, f12
IART 219,220,221 (241 now 343)	Animation	Spring 02,03,04, f05,06, f09,s14
IAT 342	Adv Animation	Fall 05,06
Cogs 310	Consciousness (In Cognitive Science)	Fall 11

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, 11, Summer14
IAT 800	Computational Art and Design	Fall 07
IAT 813	Artificial Intelligence (SIAT)	Fall 08,09,Fall14

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 Associate Professor of Computer Science at Carleton University, 2006)
- UlyssesBernardet **Artificial Intelligence and Avatar Systems** Postdoctoral Research Associate 12-15

Graduate & PhD Supervision (or committee):

Senior Supervisory Duties of a Thesis/Dissertation/or Major Project --- Completed Thesis = **

Salevati, Sara PhD Exploring User Experience and Affect to Enhance Creative Artificial Intelligence Systems 2015
**

Akhgari, Mozghan MSc Temporal Coherency in Painterly Rendered Computer Animation Using a Cognitive-Based Approach 2013
**

Karimaghalou, Nahid MSc Social Spatial Behavior for 3D Virtual Characters 2013 **

Wang, John MSc Computer Based Full Body Gestural System for Art Therapy 2012 **

McIntosh, Lorne M.Sc. Character based Motion Planning for Physically-Simulated BDI-Agents w/Spacetime
2011 **

Seifi, Hasti M.Sc. Cognitive Depiction Rendering for Computer Facial Systems 2011 **, Now UBC
PhD

Sorenson, Nathan M.Sc. Automatic Game Level Design using a Creative Genetic Algorithm Technique
2011 **

Zammitto, Veronica M.Sc. Towards Personality Demographic for Game Design 2010 **, Now my PhD

Liu, Chen M.Sc. Analysis of the Current & Future of 3d Facial Animation Techniques & Systems 2008
**

Akai, Caitlin M.Sc. Depth Perception in Real and Virtual Environments 2007 **

Suk Kyoung Choi PhD Cognitive and Vision based Analysis of Art Practice 2013

R. Graeme McCaig PhD Artificial Intelligence System in Creativity 2012

Abukhodair, Nouf PhD Genetic Algorithm Approaches to Non Photo-Realistic Rendering 2011

Jeremy Turner PhD Artificial Intelligence and Sublime Game Characters 2011

Nixon, Michael PhD Non-Verbal 3D Character Animation and Simulation 2010

Saber, Maryam Ph.D. TBD: Computer Modelling of AI based Expression and Creativity 2010

Undergraduate Research Supervision (Directed Studies and Research Assistants): ~ 21 students 03-present

Active Service to the Academic Community

Graduate Chair, School of Interactive Art And Technology (SIAT), SFU Currently ~60Masters, 60 PhDs, 2011-Director, Cognitive Science Program, 2010-present (1 yr off for Sabbatical 2012-13)

Grant Reviews and Review Committees

2003 - 2012

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 combing in evolutionary biologists and VLearn3D - an educational 3D virtual worlds conf. since 1999.

Conference Board Member

- 2008 - 2011 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 - 2013 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 - 2015 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 - 2015 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 - 2015 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 - 2015 Speaker, Speaker on the future of copyright and virtuality to academic and community groups including in Vancouver, Toronto, London and New York.