

Craig Caldwell, Ph.D.

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Synopsis

- **Administration:** Arts Director, EAE Program; #1 (graduate 2015), #2 (undergraduate 2015) as ranked by Princeton Review. Head/Professor, Queensland College of Art's - Griffith Film School (Film/Animation/Games; '06-'09); Chair/Professor, Media Arts Dept. University of Arizona ('01-'04); Associate Director, UofA Treistman New Media Center ('94-'97); Co-Director, NAU Computer Visualization Lab ('91-'94).
- **Academic Experience:** USTAR Senior Research Professor, University of Utah ('09-Present); Professor, Griffith University ('06-'09); Professor, University of Arizona ('94-'06); Professor, Northern Arizona University ('82-'94). Visiting Research Professor in Animation, Beijing Film Academy ('07), DeTao Master, Institute of Animation and Creative Content (iacc), Shanghai, ('11 – present)
- **Professional Experience:** *Walt Disney Film Studios, Feature Animation Division* ('97-'99 and '04-'05) (Burbank, California); *Electronic Arts '05-'06* Tiburon Studio.
- **Research Exhibition/Publication:** Recent Conference Presentations: SIGGRAPH '13, SIG-ASIA '12', '13, '14, Mundos Digitales '11-'14, FMX '12, '13, Sundance Panels '12, '13, ...
- Ph.D. in Computer Graphics/Animation from ACCAD (Advanced Computing Center for Art and Design) at The Ohio State University; M.F.A. Painting/Drawing/Photography at University of Florida; B.A. Fine Art, Florida Southern College.
- Grants and Fund Raising - \$9+ million.

Work Experience:

University of Utah (ARWU2014 #87), Salt Lake City, Utah [CIDAT](#)

USTAR Senior Research [Professor](#) (full & tenured)

2009 - present

[USTAR](#) (*Utah Science Technology and Research*) are world-class innovators, funded by the state legislature. Assembled to partner with industry for the economic development of Utah and develop new opportunities with the university. The Digital Media Cluster (\$4M funding) is an interdisciplinary team from the College of the Arts and the School of Computing. We initiated the graduate level Masters Games Studio in 2010 (MFA & MS) within EAE (Entertainment Arts and Engineering [2013 ranking, #1 nationally undergraduate, #2 graduate behind USC]) with a commercial game unit, Utah Game Forge to publish and create serious games. New initiatives include “The Gapp” Lab (Therapeutic Game Apps), a Serious Health Games partnership with the University of Utah Health Sciences (generating \$700K in funding this year).

Committees: Member of the Utah's Office of Economic Development. Utah Digital Media Acceleration Strategy Commission: mission to move Salt Lake City into the top three game cities in North America. Utah's Push Button (Digital Media) Summit (pushbuttonsummit.com). Sundance Film Festival panel in Digital Media for 2012 and 2013. Selected as reviewer for Ottawa's (Canada) Postsecondary Education Assessment Board 2011 and 2012. New education enterprises include a new BFA in Animation (curriculum input and review from UofU Alumni Ed Catmull [President of Pixar] and his Director of Pixar Academy). New General Education courses created: *Animation: Then and Now*, and *Women Directors*.

Recent conference speaking engagements:

<http://www.awntv.com/videos/professional-spotlight-craig-caldwell-fmx-2013-part-1>
<http://www.detaoiacc.com/?p=2215> <http://www.detaoiacc.com/?p=2490>
<http://s2013.siggraph.org/attendees/courses/events/story-its-not-just-writers-anymore>
<http://www.mundosdigitales.org/en/conferencias/caldwell.html>
<https://www.fmx.de/about/history/fmx-2013/program-2013.html#!/list?t=130>
<http://www.siggraph.org/asia2012/courses-detail?id=100-766&session=courses>

IACC, Institute of Animation and Creative Content, http://www.detaoiacc.com/?page_id=493

Master, on the campus of Shanghai Institute of Visual Art, Songjiang, China 2012 - present

This is a recent initiative underwritten by the DeTao Group. Purpose is to recognize and bring the best in the world to share their expertise in China. Several weeks out of the year.

Griffith University, (ARWU2014 #301-400), (Brisbane, Australia) www.griffith.edu.au

Head & Professor (tenured), Queensland College of Art, Griffith Film School 2006-2009

Head of the Queensland's College of Art's Griffith Film School, Senior Officer (Animation, Film and Digital Media) – GFS, the largest animation/games/film school in Australia. 450+ majors.

Implemented new interdisciplinary Bachelors in Game Design and first MFA, at QCA, for interdisciplinary applications. Oversaw school's day-to-day Budget, Personnel, and Scheduling (\$2+M budget). Responsible for acquitting Queensland State government's grant for the School's move into a new building that united two separate academic units from the South Bank and Nathan campuses. Initiated new WIL (Work Integrated Learning) opportunities for our students.

- a. Expanded enrollment over two years by 32% (international [i.e. India, China, Singapore] and domestic). Increase was due to redesigned curriculum, improved marketing, reduction of under enrolled classes, and accepting majors from other parts of university. MOU with Whistling Woods International (Mumbai, India), Beijing Film Academy (Beijing, China) and Nanyang Polytechnic (Singapore).
- b. Eliminated School deficit \$510K (2006), surplus \$232K(2008) with projected 2010 enrollment revenues to result in additional surplus. Increased number of full time faculty, technology in all labs replaced, and established an equipment reserve for scheduled upgrades.
- c. Extensive curriculum revision to international standards.
- d. Increased undergraduate application preferences by 68% in 2008; and 23% in 2009.
- f. Initiated Motion Capture facility with Brisbane game industry. Partnered with Sega-Australia to set up \$800K Professional Motion Capture studio on Nathan campus.
- g. Member of State of Queensland Screen Industry Development Council, State of Queensland Higher Education Assessment Panel, and Member of Premier's (Governor) trade delegation to Mumbai (2008).
- h. Integrated divergent faculty from two campuses into one School with a new international mission.

Electronic Arts University, Electronic Arts (Orlando, FL)

Creative Training, Tiburon Studio 2005-2006

Artistic instruction and curriculum development in 3D applications and the Game Design production pipeline. Training artists in Maya and the studio's proprietary artistic production processes created for the games "*Superman Returns*"(2006), "*Madden '07*", "*NFL Coach*" etc. Training initiated at three levels of instruction: literacy, competency and mastery.

Walt Disney Film Studios, Feature Animation (Burbank, CA)

Cross-Technologies Specialist: Artist Development Academy 2004-2005

(See Disney below) Asked to return to Disney to train artists in the studio's new proprietary production software being created for "*Chicken Little*"(2005), "*Meet the Robinsons*"(2006), "*American Dog/Bolt*"(2008), and "*Rapunzel Unbraided*"(2009). Instruction and research/development of production processes for editorial (AfterEffects), Disney Shake for ShotFinaling, Maya Lumiere for Texture & Lighting, Maya for everything etc. In addition, coordinated instructors and as well as taught Figure Drawing, which was a daily fixture in Disney's Artist Development Academy.

University of Arizona, (ARWU2014 #86), (Tucson, AZ) (2 departments) 1994 – 2006

● Media Arts Dept., Professor (tenured), Chair 2001 – 2004

The 11th largest UofA department with over 552 majors, 170 minors, and 61 interdisciplinary students. Responsible for day-to-day Budget, Personnel, Scheduling, Management, and External Relations for department. Consolidated and moved department into new building with expanded computer labs. Significantly increased the Media Arts (MAR) Industry Internship program. Guided the establishment of the Vivian and Jack Hanson Film Institute, (\$8 million endowment) in 2003. Media Arts Development Board created internship scholarships organized the annual MAR Entertainment Industry reunion in Los Angeles. Primary teaching responsibilities: Animation, Storyboarding (Visual Storytelling) and Digital Media. Partner in Internet Technology Commerce and Design Institute (Creating Collaborations Through Research Awareness). Inaugural faculty member for the interdisciplinary BA in Engineering program, Sabbatical '04-'05, Research assignment '05-'06.

- a. Evaluation team member for ACICS (Accrediting Council of Independent Colleges & Schools).
- b. Bequeath donation obtained for [Vivian and Jack Hanson Film Institute](#) (\$8 million).

- c. Responsible for generating and coordinating Academic Program Review (978 pages)
- d. Designed physical layout of spaces in department's move into new building.
- e. Enhanced department Student Credit Hours by 23%
- f. Development of new initiatives: Web-based instruction.
- g. Increased course offerings by 15%; Increased income from summer/winter sessions by 34%;
- h. Initiated higher standards for department admission; raised 4-year graduation rate to 98%;
- i. Directed revision of Graduate Program of Study from defined courses to emphasis areas.

Transitioned from Art Dept. to Media Arts Dept. in 1999 due to expanding interdisciplinary focus in my work.

• **Art Dept., University of Arizona** 1994-1999

Professor (tenured), Instruction & curriculum design in Visual Communication area. Redesigned & updated Visual Communication digital lab for Graphic Design, Illustration, and Computer Graphics. Courses: Computer Graphics & Animation, Interactive Multimedia (see courses taught). Coordinator of the Visual Communication Computer Laboratory ('94-'97). Art Department Committee for NASAD re-accreditation.

Associate Director of the Treistman New Media Computer Center (1995-1997).

Interdisciplinary team for establishing New Media [College and University-wide level committees] in the College and as member of National New Media Consortium. Offered digital training for all arts faculty. College of Fine Arts representative for UofA Faculty Development Partnership and UofA Faculty Center for Instructional Innovation. Facilitated Interdisciplinary Arts computing outside of discipline (i.e. Computer Science grants to National Science Foundation. Responsibilities included coordination of research, equipment specification, acquisition, setup, and training.

Walt Disney Film Studios, Feature Animation (Burbank, CA)

3D Technologies Specialist: Artist Development. 1997-1999

Instruction/Production for Disney Feature Animation. Curriculum design and instruction in 3D applications (Maya, SoftImage, etc.) and Disney proprietary software. Worked closely with digital and traditional animators, modelers, layout, visual development, VFX, editorial, lighting etc. Constructed learning modules for specific animated movie shots and digital production needs (*Mulan, Tarzan, Dinosaurs etc.*). Conducted research into the Disney traditional pipeline as integrated into the digital process. Participant in lecture/demonstration series for feature animation division (i.e. Chuck Jones, Alan Kay, John Lasseter, Bill Gates etc. *Disney University* Management Workshops Worked with the supervisors and artists of animation, modeling, rigging, cinematography, editorial, story, effects, visual development, digital software development and shot-finaling. Returned to UofA in the department of Media Arts in 1999.

Northern Arizona University (Flagstaff, AZ)

Professor (tenured): School of Art & Design(Painting & Drawing) 1982-1994

Dean's nomination for the President's Teaching Award, 1989. Phi Kappa Phi Faculty Artist of the year (1987). Ranked school's #1 teaching faculty ('89,'90,'91); selected as *Wakonse Teaching Excellence Fellow*. Taught figure drawing, illustration, and painting with emphasis on realistic skill acquisition coupled with strong underlying design foundation. Established the computer graphics and animation program. 2D Area (Painting, Drawing, Printmaking) Lead from '84 -'86. Director – Interdisciplinary ARTs Computer Lab/Studio ('86 – '91)

Co-Director NAU Computer Visualization Lab (with Dr. Lanny Mullens, Chair, Computer Science) (National Science Foundation Grant # USE - 8952059 Co-principle investigator).

Interdisciplinary facilities jointly run by Art and Computer Science. Responsibilities included system administration, planning, support, and dissemination. This involved the complete setup and maintenance of SGI workstations, software, digitizers, animation controller, etc. Work focused on interdisciplinary visualization projects. Taught the Computer Graphics classes for Computer Science and Engineering Dept. in the late 80's CSE282 Computer Graphics & CSE382 Computer Graphics II.

Education:

Ph.D. The Ohio State University, 1989 (Columbus, OH)

Advanced Computing Center for the Arts and Design,

Phi Kappa Phi Honor Society, First Ph.D. in discipline, Dissertation: *A Physically-based Simulation Approach to Three-Dimensional Computer Animation.*

Dissertation Advisors: Charles Csuri, Rick Parent, Tom Linehan.

Work focused on applications of motion simulation (kinematics, dynamics, and behavioral simulation) research for computer animation production pipeline.

Collaborated on early animations with Chris Wedge, BlueSky (Director of “*Ice Age*” and “*Robots*”) and John Berton, ILM (VFX Supervisor of “*The Mummy*” and “*The Mummy Returns*”)

Art Center, Pasadena, CA 1984 (Advanced Study in Figure Drawing ([Carmean, Hogarth])

M.F.A. University of Florida, Gainesville, Florida

Painting/Drawing, Photography (Art Department); Minor - Art Education

Content focus on the communication and perception of information through narrative context provided the thematic foundation. Thesis: *Reality as the Artist's Intent.*

Thesis Advisors: Hiram Williams (Painting), Todd Walker (Photo), Jerry Uelsmann (Photo)

B.A. Florida Southern College, Lakeland, Florida (4 years)

Major – Painting & Drawing (Art Department); Minor – Music

Instruction:

University of Utah

FILM/ART 3920 Pre-Vis Storyboarding

FILM/EAE 6950 Game Production

FILM/EAE 6920 Game Art/Assets MGS

FILM/EAE 6721 Game Projects MGS

Griffith University

QCA/GFS 2111 3D Environments

QCA/GFS 2113 CGI Animation

QCA/GFS 2116 Adv. Character Animation

QCA/GFS 3114 Visual Story/Storyboarding

University of Arizona

ART261 Intro to Computer Graphics

ART361 Computer Animation

ART297 Computer Graphics Applications

MAR/ART268 Intro to Computer Anim

MAR/ART306 3D Computer Animation

MAR/ART203 New Media Art

ART195 New Computer Animation Techniques

ART461 Digital Imaging

ART497/597 Multimedia

MAR/ART568 Storyboarding

MAR/ART506 Multimedia Authoring

Northern Arizona University

ART198 Computer Imagery

ART228 Intro/Comp. Graphics

ART398 4D Design/Animation

ART600 Individual Problems

BEM499 Computer Graphics (Broadcast Electronic Media in School of Communication)

ART101 Introduction to Studio Arts

ART135 Drawing I

ART136 Drawing II

ART235 Figure Drawing

ART324 Figure Painting

ART222 Painting I

ART322 Painting II

ART422 Advanced Painting

ART150 2D-Design,

ART398 Computer Graphics

ART328 2D & 3D Computer Animation

ART482 Computer Visualization

ART696 Independent Study

ART490 Art Capstone

ART331 Graphic Design I

ART341 Illustration

ART444 Animation

Special Topics: Portrait Painting

Special Topics: Watercolor

Special Topics: Pastel

ART699 Graduate Painting

ART698 Graduate Drawing

Affiliations:

DETAO Group - <http://www.detaoiacc.com/>

SIGGRAPH - Special Interest Group in Graphics

ISEA - Inter-Society for the Electronic Arts

CAA - College Art Association

NCAA – National Council of Arts Administrators

ACICS – Accreditation Council of Independent Colleges and Schools (Accreditation Team)

Publications:

^ Refereed ^^ Invited

- ^ Caldwell, C. (2014), Conference Proceedings, SIGGRAPH Asia 2014, Story Development for Animators and Game Artist. Conference DVD-ROM and ACM Digital, Library <http://www.siggraph.org/asia2014/>. Edited Volume, 12/03/2014. <http://dl.acm.org/>
- ^ Caldwell, C. (2013), Conference Proceedings, SIGGRAPH Asia 2013, Story for Game Designers, Animators, and VFX Artists. Conference DVD-ROM and ACM Digital, Library <http://www.siggraph.org/asia2013/>. Edited Volume, Published, 11/25/2013. <http://dl.acm.org/>
- ^ Caldwell, C., Bruggers, C.; Altizer, R.; Bulaj, G.; D'Ambrosio, T.; Kessler, R. (2013). Interactive Entertainment '2013, The Intersection of Video Games and Patient Empowerment: case study of a real world application. Copyright 2013 ACM 978-1-4503-2254-6/13/09, Refereed Conference Proceedings, Published 09/2013. <http://dx.doi.org/10.1145/2513002.2513018>.
- ^ Caldwell, C. (2013), Conference Proceedings, *SIGGRAPH 2013*, Story: It's not just for writers... Anymore. Conference DVD-ROM and ACM Digital Library <http://www.siggraph.org/2013/>. Edited Volume, Published, 7/21/2013. <http://dl.acm.org/>
- ^ Carol S. Bruggers (2012), Roger A. Altizer, Robert R. Kessler, Craig B. Caldwell, Kurt Coppersmith, Laura Warner, Brandon Davies, Wade Paterson, Jordan Wilcken, Troy A. D'Ambrosio, Massiell L. German, Glen R. Hanson, Lynn A. Gershan, Julie R. Korenberg, and Grzegorz Bulaj. Journal of Science Translational Medicine (ranked one of the top journals in the field), *Sci Transl Med*, 19 September 2012: Patient Empowerment Interactive Technologies: a Non-pharmacological Strategy for Fighting Diseases. Vol. 4, Issue 152, p. 152ps16, *Sci. Transl. Med.* DOI: 10.1126/scitranslmed.3004009 <http://stm.sciencemag.org/content/4/152/152ps16>
- ^ Caldwell, C. (2012), Conference Proceedings, SIGGRAPH Asia 2012, Story Structure for Programmers. Conference DVD-ROM and ACM Digital Library <http://www.siggraph.org/asia2012/>. Edited Volume, Published, 11/28/2012. <http://dl.acm.org/>
- ^ Caldwell, C. (2012), Kessler, R., Referred Paper, IGIC 2012 (IEEE International Games Innovation Conference), When the games industry and academia collide: How we impact each other. September 2012. <http://ice-gic.ieee-cesoc.org>
- ^ Caldwell, C. (2011), Changing the Creative Paradigm in teaching Graphics, Refereed Paper, TEXT Journal, Special Issue on Screen Media Production/Creative Arts, Editors Gillian Leahy and Mick Broderick
- ^ Caldwell, C. (2010), Professor as Executive Producer, Refereed Paper, Conference Proceedings, Sydney, Australia, ASPERA (Australian Screen Production Education & Research Association).
- ^ Caldwell, C. (2008), Animation: Creative versus Technical Skills, Refereed Paper, Conference Proceedings, Beijing, China, CILECT News Journal (CENTRE INTERNATIONAL DE LIAISON DES ECOLES DE CINEMA ET DE TELEVISION), The International Association of Film and Television Schools, Spring 2010.
- ^ Caldwell, C. (2008) Refereed Paper SIGGRAPH ASIA 2008, Creative versus Technical Skills in Computer Animation. Dec 2008.
- ^ Caldwell, C. (2008) Digital Dialogues, National Media Education Conference Proceedings (SAAME), Digital Media, Adelaide, Australia, Sept. 2008.
- ^^ Editorial/Referee for Focus Press Books, 2007, Oxford, UK;
Current Editorial project - "Ideas for Animators", author Karen Sullivan, 2008
- ^ Caldwell, C. (2003) "Expanding the Boundaries: Designing New Media Interdisciplinary Curriculum" International Symposium on Electronic Art Proceedings, Nagoya, Japan
- ^ Caldwell, C. (2002) "25 Years in Computer Graphics", Computer Graphics World, Jan. 2002,
- ^ Caldwell, C. (2001) "Pre-Production: The Industry Secret", Computer Graphics, Vol. 35, #2, May 2001, A Publication of ACM SIGGRAPH.

- ^ Work featured in Computer Graphics World and Resolution. Article covering the Truevision Contest winners. (1991). Selected works also included in the Truevision 1992 calendar.
- ^^ Article covering the computer graphics research collaboration Art and Computer Science, Northern Arizona University. Horizon Journal, pp. 24-30, 1990.
- ^ Caldwell, C. (1990) "Simulation as Animation, SISEA Proceedings (Second International Symposium on Electronic Art. Groningen, Holland; pp. 38-56.
- ^ Gerken, J. E., Work included in Click - Book on Computer Graphics. Watson-Guptill (1990).
- ^ Caldwell, C. (1989) "Simulation as Animation," PIXIM 89, L'Image numerique a Paris - Proceedings of the 2nd International Conference pp. 277-292.
- ^ Caldwell, C. (1989) In World Graphic Design Now, Volume 6. 2 full color pages in this special volume on Computer Graphics. Tokyo:Japan. Kodansha Publishers.
- ^ Caldwell, C. (1988). "Looking In". In G. de Valois (Producer/Director), Computer Dreams. [Video Tape]. Hollywood, CA: Digital Visions. (Documentary special on computer graphics for PBS, broadcast May 1989 .
- ^ Caldwell, C. (1989). Simulation as Animation in Computer Graphics, National Computer Graphic Association '89 Conference Proceedings, Volume III.
- ^^ Caldwell, C. (1989). "Looking In". In M. Kusahara (Producer/Director), COMPUTER GRAPHICS ANTHOLOGY. [Laser Disk] Tokyo: AMAYAKAN. (10-volume set of laser disks on computer graphics from North America, Europe, and Japan.)
- ^^ Caldwell, C. (1988). "Collaboration," ACM-SIGGRAPH '88 Tutorial Notes, Educators Workshop. (The creative and technical collaboration between computer scientists and artists.)
- ^ Caldwell, C. (1988). "Interaction Between Computer Science and Art in Computer Graphics, "National Computer Graphic Association '88 Conference Proceedings, Volume III. pp. 653-663.
- ^ Caldwell, C. (1987). "Overlapping Images and Ideas, "IEEE Computer Graphics and Applications, 7, (8), pp. 3-6. (4-page article on Craig Caldwell's computer graphics/animation)
- ^ Caldwell, C. (1987). Edited by B. E. Brown in "SIGGRAPH '87 Technical Slide Set, "Computer Graphics, 21, (5), p. 289.
- ^ Caldwell, C. (1987). Edited by J. P. Culver and B. E. Brown in "SIGGRAPH '87 Art Show Slide Set," Computer Graphics, 21, (5), p. 290.
- ^ Caldwell, C. (1987). Visual Works, PIXEL, 56, (5), pp. 38-39. (2-page color layout)
- ^ Caldwell, C. (1987). Cover of PIXEL magazine. (Japanese Computer Graphics Magazine) April 1987, No. 55.
- ^ Caldwell, C. (1985). Computer Graphic Concepts and Techniques for Artists and Designers. National Computer Graphic Association '85 Conference Proceedings, Volume I, pp. 393-413.
- ^ Wagner, P. and Caldwell, C. (1984). Digital Portfolio (Visual Work by Caldwell) Computer Graphics World, 7, (9), 62-63.

Grants and Fund Raising:

- CMI (Center for Medical Innovation) Gapp (Game Apps for Health) Lab, Jan 2014.
 - This is a facility jointly run by EAE and Health Sciences pioneering Digital Medicine: Diabetes app (students – producer, engineer, artist) *track care* \$10K, Reflex (students – producer, 2 engineer, artist) *improve coordination* \$25K, Nanotubes (students – producer, engineer, tech artist) *teaching app* \$10K. Additional applications during summer break: Arches Insurance, Prenatal Screening, Utah Clean Air, Reflex Speed/ Clinical Trials...
- Patient Empowerment app. Funded by Department of Pediatrics, University of Utah Health Sciences (\$135,000) 2011-2014.
- NSF Foundation RFP 10-571 Tangible Simulations (HCC: Tangible simulations; generalized haptic interfaces for interpreting, exploring and guiding complex computer simulations. (\$499,167). Investigators –David Johnson, Craig Caldwell, Stacy Morris). GESNA Submission 20110225-103-487 (Not-funded) Dec. 2010
- Hanson Film Institute, University of Arizona. Funded through a bequeath of \$8million from Vivian Hanson to the School of Media Arts. 2003
- New Learning Environments Technologies Grant, University of Arizona for investigation of the distribution of temporal media (\$6,010) 2003
- UofA Office of Research- \$50,000 support for College of Fine Art, New Media Center '97-'98.
- UofA ICAC Computing Facilities for Fine Art Instruction - \$35,000 ('97) and match for

College of Fine Arts computing labs.

- Softimage – Two Full 3D Software Packages (96-97). (approx. \$21,000)
- Media100 Digital Video- \$30,000 partnership grant with the CCIT ('96).
Worked with CCIT as one of the faculty sponsors.
- CCIT Faculty Development Center - Two SGI computers- \$38,000 3D animation ('96).
- Plug & Play ICAC Grant - \$26,000 Grant to set up new lab for students to bring computers where they can hook up to the Internet, record animations, etc. Wrote grant.
- ALIAS - 3D Software Packages for SGI machine in CCIT ('95)
\$10,500 grant for software for 2 years.
- UofA Core Curriculum Grant - \$3,000. Develop new course in visual communication for the core curriculum.
- Faculty Development Grant - \$5,800 Develop visual communication materials for multimedia authors at the university level as we go from a print to a visual culture.
- UofA ICAC Computing Facilities for Fine Art Instruction - \$46,000 and matching from college for total of \$71,000 awarded.
- New Media Center Grant – USA New Media Center designation. (1995) UofA selected as national center that to become leaders in developing new media for education.
\$330,000. Industry Hardware/Software Consortium (i.e. Adobe, Apple etc.)
- NAU Academic Computing Services - 1994 - \$110,000 Multi-Media Lab for College of Creative Arts,
- NAU Research Grant - 1994-95 - \$16,500 Computer visualizations
- NAU Academic Computing Services - 1993 - \$16,000 Multi-media equipment for department's efforts in designing interactive teaching applications.
- NAU Organized Research Grant – 1991 & 92 - \$11,900
- Instrumentation and Laboratory Improvement Program, NSF - 1992-95 - \$158,000. In collaboration with the computer science department.
- Apple Computer "Classroom to Boardroom" Grant. November 1989 - \$900.
- NAU Organized Research Grant - 1990 - \$5,800
- Commodore Business Machines - 1990 - \$36,090 matching for a 20 station Amiga 2500 (68030)
Interdisciplinary College of the Arts Computer Laboratory
- Neo-Visuals 3D Animation Software (SAS) (1990 - 1993) - Value \$36,000.
- Interdisciplinary College of Creative and Communication Arts Lab - 1989-90 - NAU
Academic Computer Steering Committee and Academic funding - \$70,000 for peripherals and software for Amigas (i.e. digitizers, tablets etc.)
- Matching \$100,000 for Instrumentation and Laboratory Improvement for NAU Visualization Lab/Studio - 1989 - Funded by NAU Academic Computer Steering Committee. (2 SGI Iris workstations, WAVEFRONT software, 2D digitizers, 3D digitizer, TIPS, RIO, VISTA, QCRZ film recorder, SONY Laser disc recorder, SONY BVU-950, video controllers etc.)
- Instrumentation and Laboratory Improvement Program, National Science Foundation - (1989-1992) - \$200,000, Grant # USE - 8952059 Initiated grant, Co-principle investigator.
- NAU Organized Research Grant - 1989 - \$5,300
- Organized Research Grant - NAU Summer 1988 - \$5,400
- NAU Organized Research Grant - 1988 - \$15,000 (For single frame video tape recorder and controller boards for computer animation and simulation output)
- ACM-SIGGRAPH'87 Education Grant - \$1,000 (2 days courses, technical sessions, workshop on teaching computer graphics, video reviews, slide sets, full set course notes)
- National Endowment for the Arts - New Genres Visual Artists Fellowships - 1987 - \$15,000
- Arizona Artists Materials Project Phoenix Art Museum - 1987 - \$1,000
- Organized Research Grant - NAU Summer 1986 - \$9,000

Honors:

- Jury Member – SIGGRAPH-Asia 2014, Computer Animation Festival Committee. Select group chosen internationally. 2½ day jury selection conducted in Shanghai, China.
<http://sa2014.siggraph.org/en/submitters-computer-animation-festival/computer-animation-festival-committee.html>
- Judge for the Second CCG DeTao Animation Design Competition awarded at the Ninth China International Comics and Games Expo (CCG Expo), Shanghai Convention Center.7/12/2013.
<http://www.detaoma.net/news/show/1154666>

- Judge for Festival Internacional de Animacion, Mundos Digitales, A Coruna Spain <http://www.mundosdigitales.org/en/> (see visual support documents) 7/4/2013.
- *FMX: Forum for Innovation*. Participation by invitation only. Professionals from different disciplines work through complex issues for new solutions. Topic was “World Building” sponsored by 5D institute (<http://5dstitute.org>). FMX-lab purpose was exchange of expertise for pushing world thinking into World Building; prototyping without breaking the design. Facilitated by Paul Tyler, “Handling Ideas”, using physical thinking tools taken from agile design and fast prototyping. Stuttgart, Germany. 4/23/2013.
- Judge for the 1st CCG DeTao Animation Design Competition at CCG Expo 2012. http://www.detaoma.cn/Shanghai_CCG/ (see visual support documents) 7/14/2012.
- Judge for Festival Internacional de Animacion, Mundos Digitales, A Coruna Spain <http://www.mundosdigitales.org/en/> (see visual support documents) 7/3/2011.
- Beijing De Tao “Master” designation, Beijing, China. Nominated with a highly selective process from candidates worldwide. Masters were flown to Beijing for ceremony and to meet George Lee. http://en.wikipedia.org/wiki/Beijing_DeTao_Masters_Academy 6/20/2011.
- Judge for Digital Media Concept to Company Contest. <http://www.concepttocompany.org/media12> Utah’s premiere innovation initiative to select and support the best and brightest entrepreneurs. Winners receive over \$40,000 in cash and professional services. Feb/March 2010
 - March 20-- Evaluate and screen applicants.
 - March 30- Presentations and judging of finalists held at Utah Valley University in Orem.

Professional Presentations/Conferences:

- USTAR Confluence, Presentation on Digital Media Cluster advancements. 11/3-4/2014. Sorenson BioTech Center, University of Utah.
- SIGGRAPH ASIA 2014 Conference Course. Course designation is highly selective. Story Development for Animators and Game Developers 12/03/2014 Shenzhen, China, <http://sa2014.siggraph.org/en/attendees/courses.html> Referred
- DIGRA 2014 (Digital Games Research Association) Conference Planning Committee, Salt Lake City, Utah, August 3-6, 2014.
- Mundos Digitales 2014, 13th Conference on Animation, VFX, Videogames and Digital Architecture, Story Development: Bringing Animated Stories to Life. La Coruna, Spain July 4, 2014.
- FDG 2014 (Foundation of Digital Games) Conference, Selection Committee, Ft. Lauderdale, Florida. April 3-7, 2014.
- Digital Medical Therapeutics: Exploring the power of video games and apps to transform disease treatment, health maintenance, and clinical training. Eccles Auditorium, Huntsman Cancer Institute. Invited talk on "Visual Design in Video Games... what makes it work!" University of Utah. Invited Talk/Keynote, Presented, 10/28/2013.
- SIGGRAPH ASIA 2013 Conference Course. Course designation is highly selective. Story Content for Programmers, Game Designers, and Artists in Animation, VFX, and Games. 10/20/2013 Hong Kong, <http://www.siggraph.org/asia2013/courses> Referred.
- SIGGRAPH 2013, Anaheim, CA, Conference Course. Course designation is highly selective. Story: It's not just for writers... Anymore. July, 22 2013. Referred. <http://s2013.siggraph.org/attendees/courses/events/story-its-not-just-writers-anymore>
- Interactive Entertainment '2013, The Intersection of Video Games and Patient Empowerment: case study of a real world application. October 01 2013, Melbourne, VIC, Australia. Referred.
- CCG Expo 2013, The Ninth International Animation Game Expo. Arts Creative Day session, DeTao Animation international masters media interview (CCN). Presenter at the CG DeTao Anime Context Awards Ceremony. Shanghai, China July 2013. Invited. <http://www.ccgexpo.cn>
- Mundos Digitales 2013, 12th Conference on Animation, VFX, Videogames and Digital Architecture, It's about Story... and AMAZING animation. La Coruna, Spain July 3, 2013.
- FMX 2013 18th Conference on Animation, Effects, Games and Transmedia. Non-Storytellers Story Session. Largest European conference in digital media. April 2013, Stuttgart, Germany.
- Sundance Film Festival 2013, TransMedia in the Video Games/Movies/Digital Media. Panel TBD, Session of top experts in the US and Canada. Sponsored by the Canadian Consulate. Jan. 23 2013
- SIGGRAPH ASIA 2012 Conference Course. Course designation is highly selective. Story Structure for Programmers, Game Designers, and Artists in Animation, VFX, and Games. December 1, 2012, Singapore, <http://www.siggraph.org/asia2012/courses>
- Pixel7 2012, Austrian Conference on Computer Graphics & Animation. Story for Animation

- and VFX. Austrian Academy of Sciences, Vienna, Austria. October 2012.
<http://www.pixelvienna.com/7/>
- CCG Expo 2012, The Eighth International Animation Game Expo. The GREAT Animation Secrets Arts Creative Day session, DeTao Animation international masters media interview (CCN). Presenter at the CG DeTao Anime Context Awards Ceremony. Shanghai, China July 2012.
<http://www.ccgexpo.cn>
 - Mundos Digitales 2012, 11th Conference on Animation, VFX, Videogames and Digital Architecture, The Obvious Animation Secrets. La Coruna, Spain July 2012, <http://www.mundosdigitales.org>
 - Zayed University, Refereed Speaker, Art and Digital Media, Dubai and Abu Dabbi, United Arab Emirates, , May 2012
 - FMX 2012 17th Conference on Animation, Effects, Games and Transmedia. Story for Artists, Designers, and Programmers. Largest European conference in digital media. Presentation ranked as one of the top sessions out of 362 speakers. Stuttgart, Germany. May 2012.
 - Sundance Film Festival 2012, Utah's Video Game Industry Panel - *Leaders in the video game industry discuss what's happening in Utah and its current status in the state*. Panelists: Craig Caldwell (University of Utah), Josh Jones (Smart Bomb Interactive), Lane Kiriyama (Wahoo Studios), Laura Mustard (Chair Entertainment – Epic Games), Donald Mustard (Chair Entertainment – Epic Games), John Blackburn (Disney), Veronica Lynn Harper (EA). January 2012
 - Push Button Summit 2011, The Social Community Experience, Transforming 'Our' game to 'Their' game, Oct 2011, <http://pushbuttonsummit.com/>
 - Mundos Digitales 2011, 10th Conference on Animation, VFX, Videogames and Digital Architecture, The GREAT Animation Secrets, La Coruna, Spain July 2011, <http://www.mundosdigitales.org>
 - Presentation & Consultant – University of Central Florida, School of Visual Arts, June 2011
 - University of Central Florida, Refereed Guest Speaker, Interdisciplinary Art and Digital Media, Orlando, Florida, November 2010
 - View Conference 2010, one of two academic speakers among industry professionals, Raising Animation to a Higher Level, Torino, Italy, October 2010
<http://www.viewconference.it/greg-caldwell>
 - ASPERA 2010, Professor as Executive Producer, Sydney, Australia July 2010.
 - SIGGRAPH ASIA 2008, Creative versus Technical Skills in Computer Animation, Singapore, December 2008.
 - CILECT Congress, Teaching 3D animation: Creative versus Technical Skills, Beijing, China (CENTRE INTERNATIONAL DE LIAISON DES ECOLES DE CINEMA ET DE TELEVISION), The International Association of Film and Television Schools, November 2008.
 - Digital Dialogues, National Media Education Conference (SAAME), Digital Media Today, Adelaide, Australia, Sept. 2008.
 - Chair of SIGGRAPH 2008 Panel, Teaching Computer Animation for Results, Los Angeles, CA, August 2008.
 - University of New Mexico, Interdisciplinary Film and Digital Media Program, The Nexus between Industry and Academia, Albuquerque, NM, May 2008
 - San Jose State University, Refereed presentation, 21st Century - Art Department 2.0, San Jose, CA, Feb. 2008
 - Beijing Film Academy, Animation Division, “Animation Today” October 2007
 ^ Guest/Research Professor for Animated Feature Project, Jan/Feb 2008
 - Shandong University of Art and Design, Jinan, China, September 2007
 - Griffith 2015 Senior Leadership Conference, Gold Coast, AU – Compare and Contrast University Methodologies Australia and USA, July 13, 2007
 - Lombardy/Queensland Symposium- Brisbane, AU on GFS, July 12, 2007
 - Judge – BIFF Brisbane International Film Festival, Queensland New Filmmakers Awards.
 - ASPERA (Australian Screen Production Education and Research Association) Conference 2007, Panel Session 2 – Industry and its impact on academic programs & content. June, 2007
 - Animated Dialogues, Melbourne International Animation Festival Panel Discussion: Animation: Re-packaged for the Future, June 2007
 - Whistling Woods International Film School, Bollywood Studios, Insights from Industry, Mumbai, India March 2007.
 - Pixar University, Pixar Animation Studios, Emeryville, California, April 2004
 Presentation: Non-Linear Animation: techniques and applications beyond film.
 - Interdisciplinary Digital Media, Nanyang University, Singapore, March 2004
Integrating Digital Media into the University Curriculum (Consultant)
 - Invited presentation on Digital Media at the College of New Jersey, Trenton, NJ, May 2003.

- Chair of the College Art Association 2003, New York City, conference session
“Animation: Traditional Skills, New Tools and Applications” (Feb. 20, 2003)
 The discipline of animation requires a diverse set of traditional artistic skills (e.g. drawing, design, cinematography, lighting, editing, storytelling etc.). These same sets of animation skills are rapidly becoming absorbed into new digital applications - web design, interactivity, games, and other multimedia forms. Ironically technology is expanding the demand for traditional conceptual skills.
- ISEA 2002 (11th International Symposium on Electronic Art), Nagoya Japan (October 30, 2002)
“Expanding the Boundaries: Designing New Media Interdisciplinary Curriculum”
- Chair of Panel Session SIGGRAPH 2001, “Teaching Computer Animation for Results”
- Keynote Speaker, 6th Annual UofA Learning Technology Showcase, Looking to the Future 2001
- College Art Association '01 conference panel member, session titled
Pedagogy 4.0 is in Beta: Teaching in the New Media (Feb 2003).
- Invited Critic - Review for Ringling School of Art and Design, Sarasota, Florida; Computer Animation Division (2000)
- Judge - Winter Park Art Festival (3rd Largest Festival in USA), Winter Park Florida (97)
- Invited presentation on my Computer Animation work to Ringling School of Art & Design, Sarasota, Florida (96)
- UofA Dean's & Provost Retreat on Integration of Technology (96)
- Presentation on interactive learning and multimedia at IBM, Tucson.
- CONVERGENCE conference, Art, Culture and the National Information Infrastructure, Massachusetts State House, Boston, Mass.
- Invited Presentation on my current work at the Advanced Computing Center for Art and Design at Ohio State University, 1994.
- Chair of the College Art Association '91 conference session titled
Computer Visualization - Working in 4D on the Z axis (February 1991) The term Visualization challenges the commonly held separatism of scientist and artist; a new renaissance is being created; and new views of time (4D) and space (z axis) are being defined.
- Presentation on computer graphics at Carnegie Mellon University and San Francisco State University on Computer Graphics/Animation.
- Chairman of session Technology of the 90's: New Tools for Visual Expression at the MACAA - Mid-America College Art Association: 54th Conference in Tucson.
- Paper on "Simulation as a new Animation technique" SISEA, Second International Symposium on Electronic Art. Groningen, Holland. (November 1990).
- Presented paper on "Simulation as Animation," at the PIXIM '89 Conference *L'Image numerique a Paris*, Paris, France (September 1989)
- Chairman of technical session at National Computer Graphics Association '89 Conference. (April 1989) Topic: "Pivotal Issues in Computer Animation"
 New ways of creating animation are being made possible through the integration of physically-based motion description techniques. The session delves into the topic of procedurally define motion, including kinematics and dynamics aimed at developing new creative possibilities for computer animation.
- Chairman of panel at National Computer Graphics Association '88 Conference on "Cutting-Edge Animation" March 1988.
 Symbiotic computer graphic environments have resulted in new creative works. This session covered three primary areas that contribute to innovative 3-D animation: the artistic environment, the research or programming environment and the production environment. Session recognized as in the top 5% of presentations.

Creative Work & Recognition:

Entertainment Industry – Walt Disney Film Studios, Feature Animation Division, Artist Development and Digital Production Solutions for *Dinosaur, Tarzan, Mulan*; Pre-Production *Atlantis, The Emperor's New Groove, Treasure Planet*. Second stint at Disney worked closely with Leads in animation, layout, modeling, producing etc. for *“Chicken Little” 2005* and *“Meet the Robinsons” 2006*; pre-production for *“Bolt” 2008* and *“Tangled” 2010*.

Video Games - Electronic Arts, Tiburon Studio. Artist Training for the Games *“Superman 2006”*, *NFL Coach 2007, Madden 2007*. Executive Producer: *Robot Pinball Escape 2012, Erie 2012, Race of the Zodiac 2013, Last March of the Dodos 2013, Drop Drop 2013,*

Selected Exhibitions, CG & Animation. (Refereed and Invited) - International De Cinema De Animacao 98, Portugal; Transmedia '96, Berlin; Der Prix Ars Electronica '92 & '93, International Compendium of the Computer Arts, Linz, Austria; , 10th International Forum on New Images, Monte-Carlo; Truevision Videographics Contest, *First Place Award in Fine Arts and special Eagle Award*; Eurographics '91, Vienna Austria; SISEA, Second International Symposium of Electronic Art, Groningen, Netherlands; Computer Animation, Second CG Film Festival, Geneva, Switzerland; "Entertainment Tonight", June 1989, "*Digital Vision*", New York, Metropolitan Museum of Art, New York; IBM Gallery of Science and Art collection; ACM SIGGRAPH Video Review (ISSUE 40/41) State of the Art Visualization; Electronic Art Museum at Università Degli Studi Di Camerino, Camerino, Italy; MOMI, (Museum of the Moving Image), South Bank London, England; Images Du Futur, Montreal, Quebec, Canada; Arizona Biennial, Tucson Museum of Art; ArtExpo Los Angeles Convention Center, LA, CA.; NYChapter/ACM Siggraph Film and Video Show; PIXIM Film and Video Show, Image Numerique a Paris, sponsored by ACM SIGGRAPH France, La Villette, Paris, France; FISE Arizona Biennial IMAGINA A, Centrum voor Kunst, Media Technologie (Center for Art, Media and Technology), Utrecht Academy of Arts Utrecht, The Netherlands; F.A.U.S.T., Forum Des Arts De L'Univers Scientifique Et Technique, Toulouse, France; Ausgraph, Sydney, Australia; SIGGRAPH International traveling Arts show; PRIX PIXEL - I.N.A., Institut National De L'Audiovisuel, 7th International Forum on New Images; IMAGINA, Monte-Carlo; Technical Award, Audio Visual Age(AVA) Nicograph; 3-2-1 Contact, Children's Television Workshop, 1987. (Advances in computer graphic research); PRIX ARS ELECTRONICA, Computerkultur Tage Linz. Austria; Images featured at SIGGRAPH '87 (Traveling Art Show, Conference Literature, Technical Slide Set, Special Image set); Arizona Electronic Images '87; Cad/Cam International, Kortrijk, Belgium; Arizona Biennial, Tucson Museum of Art, Tucson; Silicon Desert Graphex, Phoenix, AZ, IMAGINA, 6th International Forum, Monte Carlo, Electronic Images '87 (Arizona Commission on the Arts) Scottsdale CC, Scottsdale, AZ; Tempe Art Center, Tempe, AZ; Krakas & Dyer, Phoenix, AZ, Tubac Center for the Arts, Tubac, AZ ; DIGICON '85 at the Burnaby Art Gallery in British Columbia, Canada. This exhibit sponsored by DIGICON (The International Arts Conference on Computers and Creativity)

Selected Exhibitions, Painting and Drawings: selected for over 150 national and international art competitive and invited exhibitions. Los Angeles Designers Conference, Cal State L.A., Clearwater Drawing Invitational, Ruth Eckerd Arts Center, Clearwater, FL.; Mainsail Art Festival, St. Petersburg, FL.; Gasparilla Art Festival, Tampa, FL (1985), Winter Park Art Festival, (1984), Mainsail Art Show, St. Petersburg, FL. (1984), Cedar Key Art Show, Cedar Key, FL. Best of Show Award. (1984), Lake Wales Art Festival, Lake Wales, FL. (1984), Old Hyde Park Art Show, Tampa, FL. Honorable Mention (1984), Phyllis Wilson Gallery, Chatanooga, TN, Joan Lind Gallery, Gainesville, FL., Provincetown Art Association and Museum Competition '84, Provincetown, MA., Coconino Center for the Arts, 1984, Flagstaff, AZ., Miami Festival of the Arts, Miami, FL. (1983), Images in Art, Winter Park, FL. (1983), Las Olas Festival of Art, Ft. Lauderdale, FL. (1983), Key Biscayne Art Festival, Key Biscayne, FL. (1983), Carrolwood Art Festival, Tampa, FL. (1983), Festival of the Masters, Disney World Gallery, Merit Award (1983); Winter Park Art Festival, Winter Park, FL. (1983), Ocala Art Festival, Ocala, FL. Judges Award (1983), Arts Council of Great Britain, International Biennial Drawing Exhibition Tour: (Birmingham, London, Edinburgh, Glasgow, Belfast, Limerick, American Drawings II tour schedule for 1981: Washington County Museum, Hagerstown, MD, University of Sherbrook, Sherbrook, Quebec, City of Portsmouth Arts Center, Portsmouth, VA.; International Biennial Drawing Exhibition, Cleveland County Museum, Great Britain (1981); Arizona Summer Invitational, Flagstaff Art Center, Flagstaff, AZ (1981). Faculty Art Show, NAU Art Gallery, Flagstaff, AZ. (1981); American Drawings II tour schedule for 1980: Kirkland Gallery, Decatur, IL; Art Gallery, Slippery Rock, PA, Hewlett Gallery, Pittsburgh, PA, University Art Gallery, SUNY, Albany, NY, University of Southern Colorado, Pueblo, CO, Museum of Texas Technical Design, Lubbock, TX; 14th annual Yuma Fine Arts Association Show, Yuma, AZ; Portsmouth Arts Center, Portsmouth, VI; Works on Paper National: Southwest tour schedule 1979: Warehouse Living Arts Center, Corsica, TX, Roswell Museum and Art Center, Roswell, NM; Beaumont Art Museum, Beaumont, TX; Amarillo Art Center, Amarillo, TX; The Art Center, Waco, TX; Witte Memorial Museum San Antonio Museum Association, San Antonio, TX; Tyler Museum of Art, Tyler, TX; American Drawings II tour schedule for 1979 (Smithsonian Institution Traveling Exhibition): Commons Gallery, University Park, PA; Tweed Museum of Art, Deluth, MN; Clara M. Eagle Gallery, Murray, KY; Kennedy-Douglas Center for the Arts, Florence, AL; Stifel Fine Arts Center, Wheeling, WV; Mural 8' x 121', Commissioned by Stephen Decatur High School, Decatur, IL; Portrait of Northern Arizona University President Lawrence Walkup, Commissioned by Arizona Board of Regents and First Interstate Bank, Northern Arizona University, Flagstaff, AZ; Yuma Invitational and Tour, Yuma Fine Arts Association, Yuma, AZ. Permanent Collection Yuma Fine Arts Association, Yuma, AZ; Images '78 Show, Tucson Museum of Art, Tucson, AZ; Purchased from exhibit; One man show, Millikin University, Decatur, IL (1978); Works of Paper: Southwest '78, Dallas Museum of Art, Dallas, TX; Scottsdale National Painting Exhibition '78, Scottsdale, AZ, Purchased from exhibit; Glendale Arts Council Show '78, Glendale, AZ, Gold Medal Award