(Jack) John Erwin Tumblin

Associate Professor
Department of Electrical Engineering and Computer Science
Graphics and Interactive Media Division; Signal Processing Division(secondary),
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Education:

December 1999 **Georgia Institute of Technology**, Doctor of Philosophy in Computer Science. Dissertation Topic: *Three Methods of Detail-Preserving Contrast Reduction for Displayed Images*. Advisor: Greg Turk.

December 1990 **Georgia Institute of Technology**, Master of Science in Electrical Engineering, Minor in mathematics.

January 1980- **University of Southern California**, towards Master of Fine Arts in Cinema.
January 1981 (left for job offer at KTLA-TV5).

September1978 **Georgia Institute of Technology**, Bachelor of Science (Electrical Engineering).

Employment History:

2007—Present: Associate Professor, Department of Electrical Engineering and Computer Science, McCormick School of Engineering, Northwestern University. Member of The Graduate School.

2005—2007: Assistant Professor, Department of Electrical Engineering and Computer Science, McCormick School of Engineering, Northwestern University. Member of The Graduate School.

2001—2005: Assistant Professor, Department of Computer Science, McCormick School of Engineering, Northwestern University. Member of the Graduate School.

1999–2001: Post-Doctoral Associate, Program of Computer Graphics, Cornell University. Research on perceptually guided animation and rendering, and new image representations.

1996–1997: Consultant, IVEX Corporation, Atlanta, GA. System design/lead engineer on *Aero-Vision* product, a new Level-C FAA-certifiable computer graphics image generator for flight simulation. Working prototype was demonstrated to customers in June 1997.

1994-1995: Research Intern, Microsoft Corporation. Graphics Research Group, Redmond, WA. Human vision and local adaptation models for tone mapping and high dynamic range imaging.

1983–1991: Research Engineer, IVEX Corporation, Atlanta, GA. System design and lead engineer for a series of computer image generator products for commercial and

military pilot training. Awarded U.S. Patents #4,752,836, #4,807,158, and #4,873,585 during the course of this work. My work on IVEX-sponsored consulting for Scientific-Atlanta Inc. was awarded U. S. Patents #4,924,498 and #5,142,575.

1982–1983: Consultant, Peerless Instrument Co., Los Angeles, CA. Customization of broadcast electronics equipment, including electronic reticles, high-frame-rate TV systems, and early design studies for IVEX Corp.

1980–1982: Television Engineer, KTLA-TV5 Los Angeles, CA.

1978–1980: Research Engineer I, Georgia Tech Research Institute, Atlanta, GA.

Research Funding:

Title	Funding Source	Dates	Role
Computational Photography Research Gift (from Mitsubishi Electric Research Labs)	MERL ($10,000 renewable)	2007-2008	P. I.
Adobe Systems Gift II (to support my Computational Photography research)	Adobe Systems, Inc ($25,000 renewable)	2006-2007	P. I.
Evaluating High Dynamic Range Displays Digital Radiology and Diagnostic Imaging (with Dr. David Channin, NU Hospital)	Planar Technologies, Inc. ($20,000)	2006-2007	Co-PI
SGER: Change-Focused Scene Capture for Gigapixel Imagery	NSF-CPA: Foundations and Computing Artifacts ($60,000)	2006-2007	P. I.
Shedding New Light on Historical Paintings using Raking Angle Photography	NU Corporate Partners Research Grant ($5,000)	2006	P. I.
Change-Focused Gigapixel Imagery *(Program Director chose to award funds, but NSF lawyers forced withdrawal due to Co-PI Luebke's departure for ineligible industry research job at NVidia)*	NSF-CPA: Foundations and Computing Artifacts ($450,000 *but later withdrawn*)	2006-2009	P. I.
Thick Photography: Tools for Rich Digital Archives	NSF-IIS: Digital Libraries ($328,874)	2005-2008 (2009 extension)	P. I.
Adobe Systems Gift I (planned usage: Graduate Fellowship in Computational Photography)	Adobe ($30,000 renewable)	2005-2006	P. I.
Towards Desktop Relightable Photographs (camera equipment)	Nikon Research Corporation of America (in-kind)	2004	P.I.

Vernier Periscope Device for Hyper-Resolution Experiments	MERL ($14,000 in-kind)	2003	P.I.

Awards and Honors:

2009 Invited Speaker, Qualcomm; Eastman Kodak (Munsell Institute, RIT).
2009 Invited Speaker, Stanford HDR Symposium, Palo Alto, CA.
2007 Invited Chair Special Session on Cognitive Graphics, HVEI'07, San Jose, CA.
2006 Banquet Speaker, HVEI'06 (Human Vision and Electronic Imaging), San Jose, CA.

Publications:

Books

Raskar, R., Tumblin, J, *Computational Photography: Mastering New Techniques for Lenses, Lighting And Sensors*, A.K. Peters Press (250 pp.); [to appear, Dec. 2009].

Raskar, R., Tumblin, J., '*Computational Photography*' Morgan-Claypool Publishers (100 pp.), Series: Synthesis Lectures on Computer Graphics and Animation, Editor: Brian A. Barsky, Univ. of California, Berkeley. [To appear, Nov 2009.]

Paris, S., Kornprobst, P., Tumblin, J., Durand, F., "*A Gentle Introduction to the Bilateral Filter and its Applications*," Series: Foundations and Trends® in Computer Graphics and Vision, Editors Brian Curless, Univ. of Washington, Luc Van Gool, KU Leuven and ETH Zurich, and Richard Szeliski, Microsoft Research.   [September 2009]

Peer Reviewed Articles

Mohan, A., Raskar, R., Tumblin, J. "Agile Spectrum Imaging: Programmable Wavelength Modulation for Cameras and Projectors" *Computer Graphics Forum*, March 2008, Vol. 27, no. 2, pp. 709-717. (US, EU patents submitted) http://web.media.mit.edu/~ankit/agile/

Veeraraghavan, A., Raskar, R., Agrawal, A., Mohan, A., Tumblin, J., "Dappled Photography: Mask-Enhanced Cameras for Heterodyned Light-Fields and Coded-Aperture Refocusing", *ACM Transactions on Graphics,* Vol 26, no. 3, pp. 69-1 – 69-12. *(ACM SIGGRAPH 2007)* (US, EU patents submitted). http://www.merl.com/people/raskar/Mask/

Mohan, A., Choudhury, P., Tumblin, J., "Editing Soft Shadows in A Digital Photograph," *IEEE Computer Graphics and Applications*. Special Issue on Computational Photography, Vol. 27, no. 2, pp. 23-31, March-April, 2007

Mohan, A., Bailey, R. Waite, J., Tumblin, J., Grimm, C., Bodenheimer, B., "Table-top Computed Lighting for Practical Digital Photography," *IEEE Transactions on Visualization and Computer Graphics*. Vol. 13, no. 4, pp. 652-662, July-August 2007.

Gooch, A., Tumblin, J., "Visualizing Pentimenti: Revealing the Hidden History of Paintings", *Journal of Mathematics and the Arts* Volume 1, Issue 2, pp. 133 – 142, June 2007.

Ramesh Raskar, Amit Agrawal, and Jack Tumblin, "Coded Exposure Photography: Motion Deblurring using Fluttered Shutter," *ACM Transactions on Graphics*, Vol 25, no. 3, pp. 795-804 *(ACM SIGGRAPH 2006)*. (US, EU Patent applications submitted). http://www.umiacs.umd.edu/~aagrawal/sig06/sig06.html

Tumblin, J. "Exact 2-D Integration Inside Quadrilateral Boundaries" *Journal of Graphics Tools (JGT)*, Vol. 11, no. 1, pp. 61-71, March 2006.

Gooch, A., Olsen, S., Tumblin, J., and Gooch., B., "Color2Grey: Saliency-Preserving Color Removal," *ACM Transactions on Graphics*, vol. 24, no. 3, pp. 634-640. (*ACM SIGGRAPH 2005*). (Patent applications under review).

Pattanaik, S., Tumblin, J., Yee, H., Greenberg, D., "Time-Dependent Visual Adaptation for Fast, Realistic Image Display." In *ACM Transactions on Graphics,* vol. 19, no. 3, pp 47–54. (*ACM SIGGRAPH 2000*).

Tumblin, J., Turk, G., "Low Curvature Image Simplifiers (LCIS): A Boundary Hierarchy for Detail-Preserving Contrast Reduction." In *ACM Transactions on Graphics,* vol. 18, no. 3, pp 83–90. (ACM SIGGRAPH 1999). Frontispiece image for Annual Proceedings from this paper.

Tumblin, J., Hodgins, J. K., Guenter, B., "Two Methods for Display of High Contrast Images."*ACM Transactions on Graphics (TOG)*, Vol. 18, No. 1, pp. 56–94, January 1999. Figures from this paper used as TOG's cover image in the previous issue.
        Also presented as a Technical Sketch at SIGGRAPH`97 (talk + extended abstract) as "Display of High Contrast Images using Models of Visual Adaptation." *Visual Proceedings of SIGGRAPH '97*, page 154. August 1997.

Hodgins, J. K., O'Brien, J. F., Tumblin, J., "Perception of Human Motion with Different Geometric Models." *IEEE Transactions on Visualization and Computer Graphics*, Vol. 4, No. 4, pp. 307–316, October– December 1998.

Guenter, B., Tumblin, J., "Quadrature Prefiltering for High Quality Antialiasing." *ACM Transactions on Graphics*, Vol. 15, No. 4, pp. 332–353, October 1996.

Tumblin, J., Rushmeier, H. E., "Tone Reproduction for Computer Generated Images." *IEEE Computer Graphics and Applications*, Vol. 13, No. 6, pp. 42–48, November 1993. Extended earlier versions available as GT-GVU Technical Reports #91-13 and #92-32. Ideas and images from this work are reproduced in several textbooks, including Cohen & Wallace's *Radiosity & Realistic Image Synthesis* (1994), Sillion & Puech's *Radiosity & Global Illumination* (1994), and Glassner's *Principles of Digital Image Synthesis* (1995), & other texts.

Conference Proceedings

Mohan. A., Huang, X., Raskar, R., Tumblin, J. "Sensing Increased Image Resolution Using Aperture Mask", full paper, *IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR)* [Proceedings IEEE CVPR 2008], June 24-36, Anchorage, AK. http://web.media.mit.edu/~ankit/superres/

Ashok Veeraraghavan,A., Agrawal, A., Raskar, R., Mohan A., and Tumblin. J. "Non-refractive modulators for encoding and capturing scene appearance and depth", full paper, *IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR)* [Proceedings IEEE CVPR 2008], June 24-36, Anchorage, AK http://www.cfar.umd.edu/~vashok/Documents/NonRefractiveModn_CVPR2008.pdf

Cheung, C-Y., Mohan, A., Tumblin, J., "Revealing Pentimenti Through Raking Angle Photography", Short paper, [Proceedings of EUROGRAPHICS 2008]. Crete, Greece April 14-18, 2008 http://web.media.mit.edu/~ankit/cheung_eg08_pentimenti.pdf

Deep Shadows in a Shallow Box - Huang,X., Mohan, A., Tumblin, J.   *Proceedings of Electronic Imaging 2008* [SPIE Vol. #6810]; January, 2008 San Jose, CA. *Computer Image Analysis in the Study of Art,* David G. Stork; Jim Coddington, Editors, 681003. DOI: 10.1117/12.766949 http://www.cs.northwestern.edu/~xhu414/research.htm

Winnemoller, H., Mohan, A., Tumblin, J. and Gooch, B., "Light Waving: Light Position Estimates from Photos Alone," Computer Graphics Forum, Vol. 24, No. 3, *Proceedings of EUROGRAPHICS 2005*, pp. 433-438. http://www.cs.northwestern.edu/~amohan/lightwaving/

Tumblin, J, Mohan, A., Grimm, C., Bodenheimer, B., "Table-top Computed Lighting for Practical Digital Photography" Rendering Techniques 2005, *ACM / Eurographics Symposium on Rendering,* Konstanz, GER; vol. pp. 165-172. http://www.cs.northwestern.edu/~amohan/sl.pdf
 Also presented at *SIGGRAPH 2005* as a Technical Sketch (talk + extended abstract) *Visual Proceedings of SIGGRAPH '05*, pg. 174.

Tumblin, J., Agarwal, A., and Raskar, R., "Why I want a Gradient Camera" IEEE Computer Society, *Computer Vision and Pattern Recognition*, (IEEE-CVPR) 2005, Vol.1, pp. 103-110. http://www.cfar.umd.edu/~aagrawal/gradcam/gradcam.html

Tumblin, J. and Choudhury, P., "Bixels: Pixel Samples with Sharp Embedded Boundaries". In *Rendering Techniques, 2004* (Proceedings of the Eurographics Symposium on Rendering, June 2004) pp.255-264, Norrkoping, Sweden. http://www.cs.northwestern.edu/~jet/Publications/Tumblin_EGSR2004paper.pdf

Choudhury, P. and Tumblin, J. "The Trilateral Filter for High Contrast Images and Meshes," in *Rendering Techniques, 2003* (Proceedings of the 2003 Eurographics Symposium on Rendering) pp.186-196; color plate pg. 310. http://www.cs.northwestern.edu/~jet/Publications/Tumblin_EGSR2003paper.pdf

Hodgins, J. K., O'Brien, J. F., Tumblin, J. E., "Do Geometric Models Affect Judgments of Human Motion?" *The Proceedings of Graphics Interface '97*, pages 17–25. Kelowna, B.C., Canada, May 21–23, 1997.

Tumblin, J., "Matching Pilot Perceptions of Real-World and Simulated Light Sources." In *Proceedings of the Flight Simulation Technologies Conference*, pp. 117–130. American Institute of Aeronautics & Astronautics (AIAA), September 1988. Atlanta, GA.

Course Notes and other Publications

Debevec, P., Raskar, R., Tumblin, J., "Computational Photography: Advanced Topics", SIGGRAPH 2008 Classes: Notes (4-hour presentation, published course notes); Aug. 11-15, 2008.

Durand, F., Kornprobst, P., Paris, S., Tumblin, J.: "A Gentle Introduction to the Bilateral Filter and its Applications", SIGGRAPH 2008 Classes: Notes (4-hour presentation, published course notes). August 11-15, 2008.

Durand, F., Paris, S., Tumblin, J.: "A Gentle Introduction to the Bilateral Filter", IEEE Computer Vision and Pattern Recognition (CVPR 2008) (4-hour presentation, published course notes) Half-day Tutorial, Sat. June 28, 2008, Anchorage, AK.

Raskar, R., Tumblin, J., "Tutorial T-7: Computational Photography," *ACM/EG Computer Graphics Forum*, Vol. 26, no. 3, (Proceedings of Eurographics 2007. (4 hour presentation, 40 pg. published course notes).

Paris, S., Tumblin, J., Kornprobst, P., Durand, F., "A Gentle Introduction to the Bilateral Filter and its Applications", *SIGGRAPH 2007* Course (4-hour presentation, published course notes).

Raskar, R., Tumblin J., Levoy, M., Nayar, S., "Computational Photography," *SIGGRAPH 2007* Course (8-hour presentation, published course notes).

Veeraraghavan, A., Mohan, A., Raskar, R., Agrawal, A., Tumblin, J., "A Low-Cost Test Bed for Light-Field Capture Experiments" ACM SIGGRAPH 2007 Posters Session (K-19).

Tumblin, J., Raskar, R., "STAR ST-1: Computational Photography" (Also published in ACM / EG *Computer Graphics Forum*, Vol 25, no. 3, (Proceedings of Eurographics 2006). (1.5 hour presentations; 25 page publication).

Tumblin, J., Raskar, R., Levoy, M., Nayar, S., "Computational Photography," *SIGGRAPH 2006* Course (4-hour presentation, published course notes).

Gooch, A. "Exploring Pentimenti: The Hidden History in a Painting", (Poster) *ACM Non-Photorealistic Animation and Rendering* (NPAR) 2006

Raskar, R., Tumblin, J. "Computational Photography," *SIGGRAPH 2005* Course (4-hour presentation, published course notes); with some early contributions from S. Nayar.

Ouyang, T., Tumblin, J. "Removing Quantization Artifacts from Images Using Bounded-Interval Regularization," NU Technical Report, Accepted for presentation and publication at NU Annual Undergraduate Research Symposium, May 2005. (Ouyang joined MIT graduate program Fall, 2005)

Tumblin, J. and Anon, J., "Residues for Anti-aliasing Pixel Intensity Distortions," NU Technical Report.

Watkins, C., Sadun, A., Marenka, S., Chapter 7, "Advanced Geometric Transformations," in book *Modern Image Processing*, pages 97–108, M&T Publishers, 1993. Book cover image taken from this work.

Tumblin, J., Guenter, B., *High Quality Image Warp Filters on Image Pyramids.* Georgia Tech GVU Center Technical Report #93–04, 1993.

Ribarsky, W. R.,Tumblin, J., Newton, G., Nowicki, R., Vetter, J., *Glyphmaker: An Interactive, Programmerless Approach for Customizing Visual Data Representations.* Georgia Tech GVU Center Technical Report #93–26, 1993. (Object-oriented data-flow toolkit for data visualization).

Invited Lectures and Talks:

Conferences:

September 2009: "What's Missing from HDR Methods?" Symposium and Workshop on High Dynamic Range Imaging, Stanford University http://scien.stanford.edu/HDR/

June 2008: "A Gentle Introduction to Bilateral Filtering and its Applications" IEEE-CVPR 2008 (*Computer Vision and Pattern Recognition)*, Anchorage, AK.

September 2007: "Computational Photography" Tutorial T-7, Prague, Czech Republic, *Eurographics 2007.* (Also published in ACM / EG *Computer Graphics Forum,* Vol. 26, no. 3, (Proceedings of Eurographics) (2007).

September 2006: "Discovering Pentimenti in Paintings from 4D Reflectance and Merged Visualizations," Mellon Foundation Workshop on Conservation Science, Art Institute of Chicago.

September 2006: "Computational Photography": State-of-the-Art Report (ST-1).Vienna Austria, *Eurographics 2006.* (Also published in ACM / EG *Computer Graphics Forum*, Vol 25, no. 3, (Proceedings of Eurographics) (2006).

January 2006: "Rethinking Photography: Devices for Visual Appearance Capture": at HVEI (Human Vision and Electronic Imaging), Annual Banquet Speech.

May, 2005: Plenary Panel: "What will a Camera look like in 20 years?" at MIT 2005 Symposium on Computational Photography and Video, with Ted Adelson, Berthold Horn, others.

Invited Colloquia at Universities:

Dec 2006 : Carnegie Mellon University, School of Computer Science, Departmental Colloquium (Alexei Efros, host), "Re-Thinking Photography".

Nov. 2006 : Massachusetts Institute of Technology, (MIT-CSAIL) Graphics Group Lecture Series (Fredo Durand, host), "Re-Thinking Photography".

Oct. 2006: University of Virginia, Computer Science Lecture Series, (Greg Humphreys, host) "Re-thinking Photography: What devices should capture Visual Appearance?"

Sept 2006: Seminar in Translational Imaging Informatics: "Accelerating the Algorithm to the Application," Dept. of Radiology, Northwestern Univ Hospital. Host: D. Channin.

March 2006: "Rethinking Photography: What Devices Should Capture Visual Appearance?" Cambridge University, College of Engineering; R. Cipolla, G. Brostow hosts.

March 2006: "Re-thinking Photography: What Devices Capture Visual Appearance?" Max Planck Institute-Saarlands University, Germany. Hosts: Karol Myzkowski, Hans-Peter Siedel.

July 2004: "Bixels: Picture Samples with Sharp Embedded Boundaries," Computer Graphics Lecture Series, Purdue University, West Lafayette, IN.

Invited Colloquia at Industry Research Labs:

September 2009: "Computational Photography Opportunities for Hand-Held Devices" Qualcomm Systems, San Diego CA.

July 2008: "Shaped Visual Noise and Gigapixel Hallucinations", Sharp Inc. Research and Development Labs, Portland. OR. (Host: Scott Daly)

Dec. 2004: "What's Wrong with Pixels?" Adobe Systems, Inc. San Jose, CA. (host: Todor Georgiev)

Nov. 2004: "Good Pictures without Film Limitations," Nikon Corp. of Japan, and Nikon Research Corporation of America.

Sept. 2003: "Why Pixels are Bad for Pictures" Mitsubishi Electric Research Lab (MERL),
　　　　　Cambridge MA.

Patents:

U. S. Patent #(Application 1821 MERL) "Agile Spectrum Imaging Apparatus and Method".
Primary patent for mask-based spectral control in cameras, projectors, and imaging devices
(from EUROGRAPHICS 2008 paper). Assigned to MERL.

U. S. Patent #(Application: MERL) "Optical Heterodyning and Fourier Domain Techniques for
capturing re-focussable photographs and their Light-Fields". Primary patent for mask-based
camera designs (from SIGGRAPH 2007 paper)., Assigned to MERL.

U. S. Patent #(Application 20070258706) "Method for Deblurring Images Using Optimized
Temporal Coding Patterns". Primary patent for 'fluttered shutter' motion recovery method
(from SIGGRAPH 2006 paper) Assigned to MERL. Allowed July 7, 2009

U. S. Patent #(Application:NU26051) "Color2Gray: Salience-Preserving Color Removal".
Primary patent for grayscale conversion that preserves differences in isoluminant colors. (from
SIGGRAPH 2005 paper). Assigned to Northwestern University.

U. S. Patent #7,038,185 "Camera for Directly Generating a Gradient Image," May 2, 2006
issued.   Primary patent for clique-adaptive sensor design, now under development with Cypress
Semiconductor. Assigned to Mitsubishi Electric Research Laboratory (Cambridge, MA).

U.S. Patent #5,142,575, "Method and Apparatus for Improving Video Scrambling and
Employing Split-Sync Pulses," August 25, 1992 issued. Cable-TV scrambler/decoder method,
filed Nov. 1989. Assigned to Scientific-Atlanta, Inc., deployed in their analog set-top boxes.

U.S. Patent #4,924,498 "Method and Apparatus for improving Video Scrambling by Split Sync
Pulses." Scientific-Atlanta, Inc. Cable-TV analog scrambler/decoder method, filed April,1988.
Assigned to Scientific-Atlanta, Inc., deployed in their analog set-top converter boxes.

U.S. Patent #4,807,158 "Method and Apparatus for Sampling Images to Simulate Movement
within a Multidimensional Space." Primary patent for IVEX VDS-1000 series visual systems for
flight simulation, filed 1987, issued February 21, 1989.

U.S. Patent #4,873,585 "Method of Selectively Retrieving Video Images From a Video
Reproducer for Simulating Movement." Secondary patent for IVEX 3D fractal mountain flying
video game, filed 1985, issued October 10, 1989.

U.S. Patent #4,752,836 "Method and Apparatus for Reproducing Video Images to Simulate
Movement within a Multidimensional Space." Primary patent for IVEX 3D fractal mountain
flying video game, filed 1985, issued June 21, 1988.

U.S. Patent #4,321,853 "Automatic Ear Training Apparatus." Microcomputer-based music theory training device, (my undergraduate project while at Ga. Tech), issued March 30, 1982, assigned to Georgia Institute of Technology.

Service:

EECS Department Committees:
- 2006-10: Distinguished Lecture Committee
- 2005-10: Organizer (w/ Thrasos Pappas) of Seminar: "Meet the EECS Faculty"
- 2005-10: EECS Building Safety Committee
- 2005-10: EECS Instructional Lab Equipment Committee
- 2009-10, 2008-9, 2006-7, 2002-3: Freshman Academic Advising
- 2006-7, 2004-5, 2001-2: Graduate Admissions Committee
- 2004-5, 2003-4: CS Curriculum Committee
- 2004-5, 2003-4: Chair's Advisory Committee
- 2002-2004: Designed and directed "Meet the Faculty" Seminar (also offered as a seminar course CS 395/495)
- 2002-3, 2003-4: New Building Committee
- 2002-3: CS Dept. Colloquium Chair

Miscellaneous:
- 2009 ACM SIGGRAPH 'Speed Lab' Judging Committee
- 2008 ACM-Eurographics Guenter Enderle Awards Committee
- 2008,9 Midgraph Organizing Committee (at Univ. of Iowa)
- 2006 October: Ford Engineering Design Center Open House (exhibits, demos)
- 2005 November: Midgraph (at Univ Illinois Urbana Champaign)
- 2005 May: MIT Symposium on Computational Photography and Video (invited spkr)
- 2004 November: Papers Committee, MidGraph (at Northwestern University)
- 2004 May: Vision Science Society (VSS—Sarasota FL.)
- 2004 April: McCormick School of Engineering: Domain Dinner: "Appearance and Reality: Psychological and Computational Perspectives on What We See"
- 2003 November: MidGraph (at George Washington University)

Government and Other Outside Committees, Service, etc.:

2008-9: *ACM-SIGGRAPH 2009* Papers Committee Member
2008-9: Program Committee, ACM Symposium on Computational Photography (Boston)
2008: Program Committee, ACM/EG Eurographics 2008, April 2008 Crete (EG 2008)
2007: Special Session Chair: *Human Vision and Electronic Imaging* (HVEI 2007)
2007: Program Committee: *Eurographics Symposium on Rendering* (EGSR 2007)
2006: Doctoral Symposium Chair, *ACM Symposium on Interactive 3-D Graphics (I3D 2007)*
2005-present: Panelist and *ad hoc* reviewer, NSF CISE, NSF CAREER, NSF IIS, others…
2001-2006: Associate Editor, *ACM Transactions on Graphics*.
2003-4: *ACM SIGGRAPH 2004* Papers Committee Member
2003-4: *ACM SIGGRAPH 2004:* Session Chair - "High Dynamic Range and Perception"

2002-3: *ACM SIGGRAPH 2003* Papers Committee Member
2003:   *ACM SIGGRAPH 2003*: Session Chair - "Visualization and Printing"
2000–2001:Guest Editor, *IEEE Computer Graphics and Applications*, "Applied Perception"
2000: ACM Reviewer on proposal to found new archival journal
                                                "Transactions On Applied Perception" (accepted).

Reviewer for:

ACM Transactions on Graphics(TOG), ACM SIGGRAPH conference papers, *ACM SIGGRAPH* Technical Sketches, *ACM/SIGGRAPH* posters, *ACM/Eurographics Symposium on Rendering (EGSR)*, *ACM Symposium on Interactive 3D Graphics (I3D), ACM Transactions on Applied Perception,* Proposals to *ACM Publications Board, EG Computer Graphics Forum(journal), ACM Eurographics Annual Conference* (including 'state-of-the-art' report proposals, and course proposals), *Eurographics Workshop on Rendering (EGRW), Graphics Interface* (Annual Conference), AK Peters *Journal of Graphics Tools, IEEE Transactions on Visualization and Computer Graphics(TVCG), IEEE Transactions on Pattern Analysis and Machine Intelligence(PAMI), IEEE Computer Graphics and Applications (CG&A), IEEE Visualization(Vis Conference), IEEE Transactions on Image Processing, IEEE Transactions on Circuits and Systems for Video Technology(TCSVT); IEEE Transactions on Multimedia; IS&T Journal of Electronic Imaging, misc. book chapters, misc. book proposals.
Also:
IEEE Member, ACM Member, SIGGRAPH Member, Eurographics Member, ASEE Member.*

Courses Taught:

EECS 110: Introduction to Computer Programming. (2001, revised 2002; 2003, 2005-10).
EECS351-1: Introduction to Computer Graphics (redesigned 2004; 2005-10 (revised 2008)).
EECS351-2: (currently CS395/495) Intermediate Computer Graphics (designed 2005; 2006-8).
EECS 395: EECS 395/495-24: Computer Graphics and Special Effects Algorithms for Motion
                Pictures (experimental course)
CS 495/395: Computational Photography (new course Winter, 2009)
CS 495/395: Image-Based Modeling and Rendering. (designed 2002, 2003, 2004) .
CS 495/395: Advanced Computer Graphics (co-designed 2002; 2003).
SIGGRAPH 2005,6 Computational Photography (Half-day Course)
EUROGRAPHICS 2006: Computational Photography (State of the Art Report)
SIGGRAPH 2007: Computational Photography (Full-day Course)
SIGGRAPH 2007,8:A Gentle Introduction to the Bilateral Filter (Half-day Course)
EUROGRAPHICS 2007: Tutorial: Computational Photography (Half-day Course).
IEEE CVPR 2008: A Gentle Introduction to the Bilateral Filter (Half-day Tutorial)
SIGGRAPH 2008: Computational Photography:Advanced Topics (Half-day Course)

Student Supervision

Post-Doctoral Advisor
Dr. Jiang Duan, (12/2006-12/2008) Ph.D from University of Nottingham, UK. 10/2006.

Ph.D. advisor
Amy Gooch (Ph.D 6/2006)   →Fall 2006: Asst. Prof., Univ. of Victoria, BC.
Ankit Mohan (Ph.D 6/2008)   →Fall 2008: Post-Doc. At MIT- Media Lab
                                           →Fall 2006: 6 month internship at MERL.

Xiang Huang (Ph.D expected 6/2011

Ph.D. Committee Member
Daniel Kornhauser (PhD expected 12/2009)
Ashok Veeraraghavan (PhD, 6/2008 UMaryland)   → Member of Research Staff, MERL;
                                                  Distinguished Dissertation Award

Pin Ren (Ph.D 3/2008)
Sangwon Lee (Ph.D 3/2008)
Tom Lechner (Ph.D, withdrawn 8/2007)
Sven Olsen (Ph.D, transferred to Univ. Victoria)
Holger Winnemoller (Ph.D 9/2006)   → Adobe Systems, Inc., Seattle
Prasun Choudhury (ME Dept; PhD Spring 2004)   → Intel, then Industrial Light & Magic.
Abhinav Dayal (Ph.D 6/06)
Magy El-Seif Nasr (Ph.D 06/03)   → Assoc. Prof, Penn State Univ.
Daniel Kartch (PhD 06/01, Cornell University)

Masters Advisor:

Shenyang Dai (MS 2009)
Chi-Yin Cheung (MS 12 / 2007)
Eric Russell (MS 2007)
Xing Hu (MS 2004)
Alison Ortony (withdrew 2003)

Undergraduate Supervision:

Mark Ison, 2008-2009
Adrian Ledda, 2006-2008 (Games developer, Budcat Prodns.)
Nathan Matsuda (2005-2008)
          project won 2008 Gotaas Award (HDR video)
          EECS 395 course developer, 1-year PIXAR internship
Rejaie Johnson, 2006-2009
Paul Wang 2006-Present (Fulbright Scholarship applicant:
                          Dr. Roberto Scopigno, host(Italy))
Gary Bramwell, 2006-2007
Sara Renberg, 2006-2007 (PhD student, Northwestern Univ)
Isaac Chung, 2006-2007
Tyler Louie, 2006-2007
Usman Jafarey, 2005-2006
Naile Kovuk 2005-2007
Jimmy Tang, 2005-2006
Chi-Yin Cheung 2005-2006 (won grant: NU grad school)
Bob Adolph 2004-2006 (NSA fellowship)
David Feng, 2004-2006 (UNC grad school)
Tom Ouyang, 2003-2005 (MIT grad school)
Amit Klein, 2004-2005
Andrew Kaufman, 2004-2006 (UNC grad school; 2008
                          SIGGRAPH paper)
Dan Cogswell, 2003-2004 (MIT grad school)
Donald Fong 2003-2004
Josh Anon, 2002-2003 (Pixar; book author 2006)
John Cihocki, 2002-2003
Kasia Dunajewski 2003
Peter Soudek, 2003
Elaine Tam, 2001-2002
Stephen Gordon, 2002
Dai Kim, 2002
Sameer Mathur, 2002
Mike Worth, 2002
Jess Hwang, 2002 (NU medical school)
Umut Tekin, 2002-2004 (softwe developer)
Michelle Brooks 2001-2002
Dan Hazen, 2001-2002