

Curriculum Vitae

Anthony Paul Stanton
Teaching Professor and Director, Graphic Media Management
Tepper School of Business
Carnegie Mellon University
July 4, 2013

Education

- 1992 PhD, Instructional Design and Technology, University of Pittsburgh, Pittsburgh, PA,
 “The Relationship between Color Discrimination and Color Realism in Pictorial Recognition
 Memory” (Louis H. Berry, Chair; Barbara B. Seels; Michael R. Harwell; and Barbara W.
 Fredette)
- 1982 MS, Printing Technology, Rochester Institute of Technology, Rochester, NY, specialization
 in color reproduction
- 1979 MEd, Industrial Education, University of Maryland, College Park, MD, specialization in
 graphic arts
- 1976 36 credit-hour certification in Industrial Arts, University of Maryland, College Park, MD
- 1972 BA, Art Studio, The Colorado College, Colorado Springs, CO

Training

- 1993 ISO 9000 Lead Assessor Training Course, Quality Management International, Allentown, PA
- 1993 ISO 9000 Documentation Writing, Center for Executive Education, Graduate School of
 Business, University of Pittsburgh, Pittsburgh, PA
- 1992 ISO 9000 Series, Center for Executive Education, Graduate School of Business, University of
 Pittsburgh, Pittsburgh, PA
- 1984 Paper and Ink Problems in the Pressroom, Graphic Arts Technical Foundation, Pittsburgh, PA
- 1980 Dry Dot Etching, DuPont Printing Systems, Clifton, NJ

Positions Held

- 2009–pres. Teaching Professor and Director, Graphic Media Management, Tepper School of Business,
 formerly Graduate School of Industrial Administration (GSIA), Carnegie Mellon University
- 2000–09 Associate Teaching Professor and Director, Graphic Media Management, Tepper School of
 Business, Carnegie Mellon University
- 1997–00 Lecturer and Director, Graphic Communications Management, GSIA, Carnegie Mellon
 University
- 1996–97 Director, Graphic Communications Management, GSIA, Carnegie Mellon University
- 1984–96 Director of Process Controls, Graphic Arts Technical Foundation (GATF), Pittsburgh, PA—
 designed quality control devices and oversaw their manufacture, conducted research on print
 attributes, and taught industry workshops and seminars
- 1982–84 Assistant Professor (temporary leave replacement), Industrial Technology Department,
 California State University, Chico, CA—taught courses in offset lithography, reproduction
 photography, color separation, paper and ink technology, and screen printing

Positions Held (continued)

- 1981–82 Assistant Professor (temporary leave replacement), Graphic Communication Department, California Polytechnic State University, San Luis Obispo, CA—taught courses in image assembly and platemaking and instructed labs in reproduction photography and graphic arts processes
- 1979–80 (summers only) Photographic Technician, Graphic Reproduction Company, San Francisco, CA—duties included operating large-format engineering camera, photographic processing, and supervising night shift
- 1979 Lecturer (temporary leave replacement), Industrial Arts Department, University of Maryland, College Park, MD—taught courses in graphic communications and photography
- 1977–78 (part-time during school) Prepress Technician, Quality Brands Marketing Corp., College Park, MD—duties included making line and halftone films for lithographic and letterpress printing, film assembly, and art preparation
- 1975 Process Photographer, Clientelle Graphics Company, Toronto, ONT, Canada—duties included making line and halftone films for lithographic printing
- 1974–75 Photographic Assistant, Camart Photography Studio, New York, NY—duties included assisting with photography and photographic processing

Consulting Related to Graphic Media

- 1996–2004 Graphic Arts Technical Foundation (merged in 1999 with Printing Industries of America to become PIA/GATF), Sewickley, PA—consulted on development of process control devices and variety of research projects related to print attributes
- 2000 Xerox Corporation, Webster, NY—consulted on color reproduction
- 1996–99 Lifetouch National School Studios, Inc, Minneapolis, MN—consulted on color reproduction and print analysis involving design of specialized test form and supervision of press testing and optimization
- 1997 Taylor Publishing Co., Dallas, TX—consulted on color reproduction and process control
- 1996–97 The Weihe Partnership, Washington, DC—consulted on the conversion of the Housing and Urban Development headquarters from traditional to digital printing
- 1995 Sandy Alexander Printing Co., Clifton, NJ—ISO 9000 quality assurance pre-audit assessment
- 1994 Sayers Printing Co., St. Louis, MO—ISO 9000 quality assurance pre-audit assessment
- 1992 Impre Andes, Bogotá, Colombia—technical plant audit evaluating workflow, process control, and color reproduction
- 1988 *The Orlando Sentinel*, Orlando, FL—press test and color calibration consulting
- 1987 Dow Chemical, (conducted in) Pittsburgh, PA—consulted on process control and color reproduction
- 1986 *The Boston Globe*, Boston, MA—press test and technical plant audit evaluating process control, workflow, and color calibration
- 1985 *The St. Louis Post Dispatch*, St. Louis, MO—press test and technical plant audit evaluating process control, workflow, and color calibration

Consulting Related to Graphic Media (continued)

- 1985 *The Gainesville Sun*, Gainesville, FL—press test and color calibration consulting
- 1984 Folex Switzerland, (conducted in) Pittsburgh, PA—evaluated new diazo film product targeted at graphic arts

Courses Taught and Ratings at Carnegie Mellon

Course Number	Course Title	Year	Instructor Rating	Course Rating	Students Enrolled	Students Responses
70-160	Graphic Media Processes	S 2013	4.27	4.21	40	15
70-194	Publishing in the Information Age	S 2013	4.50	4.25	30	12
70-643	Publishing on the World Wide Web	S 2013	4.14	4.21	23	14
70-160	Graphic Media Processes	F 2012	4.65	4.50	35	20
70-641	Color Reproduction and Management	F 2012	4.00	4.20	11	5
70-643	Publishing on the World Wide Web	F 2012	3.50	3.50	20	12
70-160	Graphic Media Processes	S 2012	4.14	4.14	45	21
70-194	Publishing in the Information Age	S 2012	4.38	4.15	25	13
70-643	Publishing on the World Wide Web	S 2012	4.00	3.80	27	10
70-160	Graphic Media Processes	F 2011	4.13	3.93	27	15
70-641	Color Reproduction and Management	F 2011	4.14	4.14	11	7
70-643	Publishing on the World Wide Web	F 2011	4.20	4.20	21	10
70-160	Graphic Media Processes	S 2011	4.80	4.85	34	20
70-194	Publishing in the Information Age	S 2011	4.18	4.09	25	11
70-643	Publishing on the World Wide Web	S 2011	4.38	4.38	34	13
70-160	Graphic Media Processes	F 2010	4.77	4.38	29	13
70-641	Color Reproduction and Management	F 2010	4.00	4.00	20	7
70-643	Publishing on the World Wide Web	F 2010	4.00	4.10	34	20
70-160	Graphic Media Processes	S 2010	4.37	4.16	37	19
70-194	Publishing in the Information Age	S 2010	4.33	4.17	19	12
70-643	Publishing on the World Wide Web	S 2010	4.00	3.88	34	16
70-160	Graphic Media Processes	F 2009	4.42	3.64	32	12
70-641	Color Reproduction and Management	F 2009	4.33	4.50	18	6
70-643	Publishing on the World Wide Web	F 2009	4.25	4.50	25	12

Courses Taught and Ratings at Carnegie Mellon (continued)

Course Number	Course Title	Year	Instructor Rating	Course Rating	Students Enrolled	Students Responses
70-160	Graphic Media Processes	S 2009	4.69	4.00	34	13
70-160	Publishing on the World Wide Web	S 2009	4.67	4.08	29	12
70-641	Color Reproduction and Management	F 2008	4.57	4.43	17	7
70-643	Publishing on the World Wide Web	F 2008	4.42	4.42	34	12
70-160	Graphic Media Processes	F 2008	4.53	4.20	35	15
70-641	Color Reproduction and Management	S 2008	4.57	4.43	17	7
70-643	Publishing on the World Wide Web	S 2008	4.42	4.42	34	12
70-160	Graphic Media Processes	S 2008	4.53	4.20	35	15
70-643	Publishing on the World Wide Web	F 2007	4.22	4.33	23	9
70-160	Graphic Media Processes	F 2007	4.50	4.00	27	8
70-641	Color Reproduction and Management	S 2007	5.00	4.60	17	10
70-643	Publishing on the World Wide Web	S 2007	5.00	5.00	27	4
70-160 A	Graphic Media Processes	F 2006	4.62	4.25	24	10
70-160 B	Graphic Media Processes	F 2006	4.40	4.40	23	5
70-643 A	Publishing on the World Wide Web	F 2006	4.75	4.75	13	4
70-643 B	Publishing on the World Wide Web	F 2006	5.00	4.60	17	5
70-641	Color Reproduction and Management	S 2006	4.60	4.80	19	5
70-643	Publishing on the World Wide Web	S 2006	4.67	4.56	25	9
70-160 A	Graphic Media Processes	F 2005	4.33	4.00	16	4
70-160 B	Graphic Media Processes	F 2005	3.71	3.29	28	9
70-643 A	Publishing on the World Wide Web	F 2005	4.50	4.50	24	6
70-643 B	Publishing on the World Wide Web	F 2005	4.75	4.38	21	9
70-641	Color Reproduction and Management	S 2005	5.00	5.00	13	3
70-643 A	Publishing on the World Wide Web	S 2005	4.57	4.57	25	7
70-643 B	Publishing on the World Wide Web	S 2005	4.00	4.20	23	7
70-643 C	Publishing on the World Wide Web	S 2005	4.62	4.38	25	8

Courses Taught and Ratings at Carnegie Mellon (continued)

Course Number	Course Title	Year	Instructor Rating	Course Rating	Students Enrolled	Students Responses
70-160 A	Graphic Media Processes	F 2004	4.00	3.40	18	6
70-160 B	Graphic Media Processes	F 2004	4.17	3.83	22	7
70-643 A	Publishing on the World Wide Web	F 2004	4.25	5.00	16	5
70-643 B	Publishing on the World Wide Web	F 2004	4.00	4.00	16	5
70-161	Printing Technologies	S 2004	4.83	4.67	8	6
70-643 A	Publishing on the World Wide Web	S 2004	4.53	4.53	21	15
70-643 B	Publishing on the World Wide Web	S 2004	4.89	4.83	24	18
70-643 C	Publishing on the World Wide Web	S 2004	4.61	4.61	24	18
70-160 A	Graphic Media Processes	F 2003	4.56	4.56	19	16
70-160 B	Graphic Media Processes	F 2003	4.70	4.41	32	27
70-643 A	Publishing on the World Wide Web	F 2003	4.60	4.73	22	15
70-643 B	Publishing on the World Wide Web	F 2003	4.57	4.79	18	14
70-643 A	Publishing on the World Wide Web	S 2003	4.50	4.36	18	14
70-643 B	Publishing on the World Wide Web	S 2003	4.58	4.79	23	19
70-643 C	Publishing on the World Wide Web	S 2003	4.90	4.80	20	10
70-160 A	Graphic Media Processes	F 2002	4.70	4.57	30	23
70-160 B	Graphic Media Processes	F 2002	4.53	4.42	21	19
70-643 A	Publishing on the World Wide Web	F 2002	4.78	4.72	20	18
70-643 B	Publishing on the World Wide Web	F 2002	4.78	4.61	24	23
70-161	Printing Technologies	S 2002	4.70	4.57	7	7
70-643 A	Publishing on the World Wide Web	S 2002	4.41	4.00	22	17
70-643 B	Publishing on the World Wide Web	S 2002	4.48	4.43	23	21
70-643 C	Publishing on the World Wide Web	S 2002	4.54	4.38	23	13
70-160 A	Introduction to Graphic Communications	F 2001	4.50	4.28	35	32
70-160 B	Introduction to Graphic Communications	F 2001	4.73	4.59	33	22
70-643 A	Publishing on the World Wide Web	F 2001	4.62	4.31	24	13
70-643 B	Publishing on the World Wide Web	F 2001	5.00	4.90	22	10
70-161	Printing Technologies	S 2001	4.59	4.47	21	17
70-643 A	Publishing on the World Wide Web	S 2001	4.56	4.44	27	16
70-643 B	Publishing on the World Wide Web	S 2001	4.72	4.78	28	18

Courses Taught and Ratings at Carnegie Mellon (continued)

Course Number	Course Title	Year	Instructor Rating	Course Rating	Students Enrolled	Students Responses
70-160 A	Introduction to Graphic Communications	F 2000	4.57	4.52	27	23
70-160 B	Introduction to Graphic Communications	F 2000	4.89	4.78	27	18
70-643 A	Publishing on the World Wide Web	F 2000	4.57	4.64	19	14
70-643 B	Publishing on the World Wide Web	F 2000	4.58	4.68	25	19
70-161	Printing Technologies	S 2000	4.90	4.60	13	10
70-635	Desktop Publishing	S 2000	4.67	4.56	20	18
70-643	Publishing on the World Wide Web	S 2000	4.59	4.35	39	34
70-160 A	Introduction to Graphic Communications	F 1999	4.06	3.76	28	17
70-160 B	Introduction to Graphic Communications	F 1999	4.35	4.15	30	20
70-643	Publishing on the World Wide Web	F 1999	4.48	4.48	31	21
70-161	Introduction to Graphic Comm. II	S 1999	4.50	4.10	22	20
70-641	Color Reproduction	S 1999	4.75	4.75	8	8
70-160 A	Introduction to Graphic Communications	F 1998	3.93	3.73	25	15
70-160 B	Introduction to Graphic Communications	F 1998	4.33	4.33	24	15
70-640	Emerging Graphic Technologies	F 1998			11	
70-161	Introduction to Graphic Comm. II	S 1998	4.71	4.71	13	7
70-160	Introduction to Graphic Communications	F 1997	4.22	4.00	29	23
70-640	Emerging Graphic Technologies	F 1997	3.29	3.00	15	7
70-161	Introduction to Graphic Comm. II	S 1997	4.47	4.33	21	15
70-641	Color Reproduction	S 1997	4.56	4.56	11	9
70-160	Introduction to Graphic Communications	F 1996	3.95	4.10	27	20
70-640	Emerging Graphic Technologies	F 1996	3.29	3.00	15	7

Student Supervision: Undergraduate

2012	Alysia Finger— advised during an independent study on the history and economic development of the East Liberty section of Pittsburgh
2010	Chris Shull— advised during an independent study on developing curriculum for WWW publishing to mobile devices
2009	Rana Yousr El Sakhawy—advised during an independent study from Qatar on the large-format graphics marked in the Middle East

Student Supervision: Undergraduate (continued)

- 2007 Rachel Kurpiel—served as her advisor throughout her CMU career as a self-defined major in multi-media authoring
- Michael Darragh—advised during an independent study to develop a business plan for a web development company
- 2006 Joo Young Park—advised during an independent study of advanced web development tools
- 2002 Yik-King Ng—advised during an independent study of the development of an interactive video game
- 2001 Jaewon Lee—advised during an independent study of the historical development of multimedia authoring
- Christina Nargi—advised during an independent study to develop a website for the magazine *Paper*, at which she had served as a summer intern
- Stanley Kwon—advised during an independent study to develop a prototype of a magazine on the subject of techno music and culture
- 2000 Tammy Manski—advised during her senior honors project (funded by a small undergraduate research grant) to propose improvements for effective communications between CMU and its alumni.
- Kristy Sorcan—advised during an independent study on the impact of Macromedia Flash on the World Wide Web
- Arthur Leipzig—advised during an independent study of multimedia authoring and the development of an interactive portfolio prototype
- Joshua Scott—advised during an independent study on database website development including the development of a prototype site
- 1999 Sunny Nam—advised during an independent study in which she produced a manual of the production process for the magazine industry
- Elias Mablekos—advised during an independent study of emerging standards for web-based vector graphics
- 1998 Daniel Bruce—advised during an independent study conducted with two student colleagues from other disciplines and supported by an undergraduate research initiative grant and an Arthur Vining Davis grant to produce a magazine on counter-culture fashion
- 1997 Justin Bass—advised during an independent study to develop a business plan for a company to develop computer networking solutions
- David Malli—advised during an independent study on information management systems for the graphic arts and how/why to migrate them to the Internet

Student Supervision: Extracurricular

2001–pres. Faculty Advisor for the CMU Students in Free Enterprise (SIFE). This organization was rebranded in the Fall of 2012 as ENACTUS which is not an acronym, but the group describes itself as “Entrepreneurs in action for the greater good”. I founded the CMU SIFE chapter with a small group of students in the Fall of 2000. SIFE, now ENACTUS, is a nonprofit organization that is active on more than 1,600 college and university campuses in 37 countries. Now in its 37th year, it promotes the entrepreneurial efforts of students to reach out to others in their communities and beyond with projects that teach the values of free enterprise and social responsibility. This organization has made a tangible difference in the lives of underprivileged people around the world, and, in doing so, has honed the leadership skills of thousands of young people entering the workforce.

CMU SIFE has enjoyed remarkable success since its founding due to the talents and energies of our students. The organization has grown from 4 students to 106 active members in 2013. We have finished first in our league for 12 of the 13 regional competitions we have entered, and we have won numerous regional special topic awards. CMU SIFE has once advanced to the semifinals in the national competition.

1996–2010 Faculty Advisor for the Business Opportunities Conference. I was the faculty advisor for the BOC from my arrival at CMU until 2010. The Business Opportunities Conference is a student-run recruiting event held in the Fall of each year. During my tenure the conference grew in attendance and stature and, overall, maintained a substantial positive cash flow. Many of the visiting recruiters commented on the organization and professionalism of the student volunteers. This activity provides a great opportunity for the Tepper students to put into practice the academic principles they have studied and to hone their organizational and interpersonal skills.

Educational Contributions: New Courses

The Graphic Communications Management track, in place in 1996, was overhauled and redirected to form the current Graphic Media Management track. The changes were prompted by the sweeping technological changes taking place throughout the graphics world and by the need to better fit into the modern business curriculum at the Tepper School. (The latter subject is discussed in more detail in the accompanying Teaching and Education Statement.) All of the courses in the Graphic Media Management track have been developed since 1996. Adjunct lecturers have been recruited and retained as needed to assist in teaching this curriculum.

70-160 Graphic Media Management—This course provides a foundation for the study of graphic media management by investigating the processes and materials used in the production of graphic media. The goal of the course is to provide students with a measure of graphic literacy to enable them to be more astute consumers of graphic products and services. Topics include: graphic production options, typography, digital photography, color reproduction, digital video and cinema, papermaking, e-paper, graphic displays, ink systems, finishing techniques, document security, digital printing, large-format graphics, holography, and electronic publishing.

70-194 Publishing Management in the Information Age—The digital era is transforming the publishing industry. This course addresses the opportunities in both print and electronic publishing that have been brought about by digital technologies. The course focuses on the management of intellectual property, publishing processes, career opportunities, and

Educational Contributions: New Courses (continued)

- 70-194 (cont.) electronic publishing opportunities. Stanton took over as instructor for this course in Spring 2010. It has been substantially reconfigured to bring it up to date with the rapidly evolving digital publishing technologies. A substantial lab component has been added in which students develop desktop publishing skills which culminate in the production of a perfect bound book of their original writings on topics related to publishing in the information age.
- 70-643 Publishing on the World Wide Web—This course was started in the Fall of 1999 in response to the growing importance of the World Wide Web as a communication medium and a publishing platform. This course has been successful with students from across the CMU campus since its inception. Its content has continually evolved to reflect the astounding changes that have taken place in web publishing and technology. The course topics include: the design and usability of web sites, web conferencing, business practices and ethical issues, multimedia on the web, the increased use of mobile devices, strategies for search engines, 3D environments, and others. Classroom instruction is supported by laboratory exercises through which students make and publish functional and effective web sites. The course benefits from a high amount of student involvement made possible by the small class sizes (limited by the capacity of available computer clusters).
- 70-641 Color Reproduction and Management—This course was developed in 1997 and has continued to evolve as graphic media processes have migrated to digital workflows and as publishers have embraced the use of multiple output technologies for their digital images. In today's business world, the accurate reproduction of color in various media is both a challenge and a necessity. This course examines the issues related to color reproduction and the methods by which consistent color appearance can be maintained across a variety of traditional and electronic media. Topics include: the perception and measurement of color; the capture, manipulation, and formatting of color images; the prediction of color appearance across dissimilar media; and color management techniques for the seamless interchange of color files. Students apply the principles they learn in a series of laboratory exercises.
- 70-637 Interactive Media Management—Interactive media offer a powerful communication method by providing an immersive, self-guided multi-media environment. This course introduces students to project management methods for interactive media and to the methods used to create effective interactive media. Classroom instruction is supported by laboratory exercises. Students learn how to conceptualize, manage, and execute an interactive media project that combines text, illustrations, photographs, animations, sound, and video. This course has been taught since its inception by Rob Dillon.

Tepper Committee Assignments

1999–pres. BA Curriculum Committee

2000 Classroom Technology Task Force (represented GSIA on this campus-wide committee)

Publications: Articles in Edited Books

“Heads-up Displays,” *McGraw-Hill 2014 Yearbook of Science & Technology*, New York, approved for publication.

“Automated Ink Optimization Software for the Printing Industry,” *McGraw-Hill 2010 Yearbook of Science & Technology*, New York, 2011, pp. 22—26.

Publications: Articles in Edited Books (continued)

- “Inkjet Printing,” *McGraw-Hill 2007 Yearbook of Science & Technology*, New York, 2007, pp.115–118
- “Digital Cinema,” *McGraw-Hill 2006 Yearbook of Science & Technology*, New York, 2006, pp. 172–174
- “Digital Photography,” *McGraw-Hill 2003 Yearbook of Science & Technology*, New York, 2003, pp. 87–89
- “Digital Proofing,” *McGraw-Hill 2000 Yearbook of Science & Technology*, New York, 2000, pp.119–121

Publications: Booklets

- “Digital Proofing Study (Part VII)” (coauthors Frank Scott and Greg Radencic), *Research and Technology Report*, GATF Press, Sewickley, PA, 2003, 35 pp.
- “Ink Trapping and Colorimetric Variation,” *Research and Technology Report*, GATF Press, Sewickley, PA, 2001, 44 pp.
- “A Proposal for GATF Sheetfed Offset Print Specifications” (coauthor Phillip Hutton), GATF Press, Sewickley, PA, July 2000, 16 pp.
- “GATF Computer-to-Plate Studies,” *Research and Technology Report*, GATF, Pittsburgh, PA, 1996, 60 pp.

Publications: Conference Proceedings

- “Color Uniformity of Electrophotographic Presses” (coauthors Lindsay Ferrari and Mark Bohan), *Technical Association of the Graphic Arts (TAGA) Proceedings 2013*, Pittsburgh, PA, 41 pp.
- “Analysis of Damage to Direct Mail in the Postal Stream” (coauthors Lindsay Ferrari and Mark Bohan), *Technical Association of the Graphic Arts (TAGA) Proceedings 2012*, Pittsburgh, PA, pp. 214–265.
- “Color Science and Color Management” *ICGCAS 2011 Proceedings*, International Conference of Graphic Communications Arts & Science 2011, Taipei, Taiwan, 23 pp.
- “An Analysis of the Current Status of Process Control for Color Reproduction in Newspapers” (coauthor John Seymour), *Technical Association of the Graphic Arts (TAGA) Proceedings 2011*, Pittsburgh, PA, pp 1–33.
- “Inkjet – The Tiny Giant,” *International Conference of Graphic Communication Arts & Science Proceedings*, National Taiwan University of Arts, Pan-Chiao City, Taiwan, ROC, 2009 pp. 26–53
- “The Relative Accuracy and Effectiveness of Automated Ink Optimization Software” (coauthors Eric Neumann and Mark Bohan), *Technical Association of the Graphic Arts (TAGA) Proceedings 2009*, Pittsburgh, PA, 50 pp.
- “Lithography in the Digital Age,” *International Conference of Graphic Communication Arts & Science Proceedings*, National Taiwan University of Arts, Pan-Chiao City, Taiwan, ROC, 2007, pp. 12–29.
- “Influences of Rendering Intents on Reproduced Colors Using Color-Managed Graphic Workflows” (coauthor Mark Bohan), *Technical Association of the Graphic Arts (TAGA) Proceedings 2007*, Pittsburgh, PA, 32 pp.

Publications: Conference Proceedings (continued)

- “Optimizing a Sheetfed Lithographic Press,” *The 2006 Graphic Communication Arts and Technology Trends Conference Proceedings*, National Taiwan University of Arts, Pan-Chiao City, Taiwan, ROC, 2006, pp. 177–203.
- “The Effects of Coatings on Color Gamuts in Lithography” (coauthor Mark Bohan), *TAGA Proceedings 2006*, Pittsburgh, PA, pp. 236–256
- “Lithography at 200: Controlling the Process,” *Graphic Communication Technology Trends for the 21st Century Conference Proceedings*, National Taiwan University of Arts, Pan-Chiao City, Taiwan, ROC, 2001, 15 pp.
- “Ink Trapping and Colorimetric Variation” (coauthor Greg Radencic), *TAGA Proceedings 2001*, Rochester, NY, pp. 258–281
- “Advances in High-Resolution Lithography” (coauthor Don Faust), *TAGA Proceedings 2000*, Rochester, NY, pp. 587–605
- “An Investigation of the Relationship Between Gray Balance and Printed Dot Area” (coauthor Phillip Hutton), *TAGA Proceedings 2000*, Rochester, NY, pp. 557–586
- “An Analysis of Sheetfed Lithographic Print Attributes” (coauthor Phillip Hutton), *TAGA Proceedings 1999*, Rochester, NY, pp. 389–409
- “New Digital ‘Smart’ QC Devices” (coauthor Greg Bassinger), *GATF/Deutsche Forschungsgesellschaft für Druck- und Reproduktionstechnik E.V. (FOGRA) Graphic Technology Congress Proceedings*, GATF Press, Pittsburgh, PA, 1997, 6 pp.
- “An Objectively Measured Index of Banding” (coauthor Phillip Hutton), *TAGA Proceedings 1997*, Rochester, NY, pp. 231–243
- “The Measurement of Computer-Generated Plates,” *TAGA Proceedings 1996*, Rochester, NY, pp. 372–396
- “Reproduction Characteristics of Computer-to-Plate Imaging Systems,” *TAGA Proceedings 1995*, Rochester, NY, pp. 1–28
- “Color Reproduction Characteristics of Stochastically Screened Images,” *TAGA Proceedings 1994*, Rochester, NY, pp. 65–91
- “GATF Frequency-Modulated Acutance Guide” (coauthor Richard Warner), *TAGA Proceedings 1991*, Rochester, NY, pp. 638–654
- “Color Print Quality in Offset Lithography,” paper presented at the 8th Annual Print Quality Seminar, BIS CAP International, Norwell, MA, 1989, 14 pp.
- “Database for Densitometric Data” (coauthor John Sweeney), *TAGA Proceedings 1989*, Rochester, NY, pp. 27–41
- “The Use of the GATF Sheetfed Color Printing Test Kit to Optimize and Control Lithographic Printing,” *TAGA Proceedings 1989*, Rochester, NY, pp. 451–469
- “Effects of Dry-Etching Techniques on Changing Halftone Dot Sizes,” *TAGA Proceedings 1983*, Rochester, NY, pp. 440–457

Publications: Magazine Articles

- “Newspapers: Surviving in the Age of Communications,” *1996 Technology Forecast*, GATF, pp. 25–27
- “ISO 9000: The Graphic Arts Perspective,” *GATFWORLD*, July/August 1994, pp. 37–41
- “Measured Photography,” *GATFWORLD*, January/February 1994, pp. 19–26
- “Standard Viewing Conditions for the Graphic Arts,” *GATFWORLD*, November/December 1990, pp. 21–28
- “GATF Color Control Bars for Fine-Line Reproductions,” *GATFWORLD*, July/August 1990, pp. 21–28
- “Harnessing the Potential of the Color Scanner,” *GATFWORLD*, March/April 1990, pp. 35–40
- “Controlling Color Reproduction in Newspapers,” *GATFWORLD*, January/February 1989, pp. 33–38
- “Electronic Image Manipulation: Its Effects on Offset Lithography,” *Printing News* (India), March/April 1987, pp. 9–12
- “Color Reproduction for Nonheatset Web Offset Printing,” *GATF Research Department Report*, 1985, pp. (3) 1–11.
- “Color Reproduction Testing of Nonheatset Offset Printing,” *GATF Research Department Report*, 1984–85, pp. (8) 1–13.

Publications: Process Control Device User’s Guides

(all published by GATF between 1984 and 1996)

Register Test Grid	85-line Color Control Bar
Newsdot Target	150-line Color Control Bar
Transfer Grid	175-line Color Control Bar
GATF/SWOP Proofing Bar	200-line Color Control Bar
GATF/ SWOP Production Control Bar	GCA/GATF Proof Comparator
Newspaper Test Form	GCA/GATF Digital Proof Comparator
Six-Color Control Bar	SWOP Calibration Kit
Single-Tiered Six-Color Control Bar	19×25-in. Sheetfed Color Printing Test Kit
Mini Control Bar for Web	25×38-in. Sheetfed Color Printing Test Kit

Professional Activities: Conference Tutorials

- 2012 “Holography” (90-minute tutorial), TAGA Annual Conference, Jacksonville, FL, March 19
- 2011 “Graphic Displays” (90-minute tutorial), TAGA Annual Conference, Pittsburgh, PA, March 7
- 2010 “Inkjet Publication Printing” (90-minute tutorial with Mark Bohan), TAGA Annual Conference, San Diego, CA, March 15
- 2009 “What Is and What Is Not Color Management” (90-minute talk), 2009 Printing Industries of America Color Management Conference, Phoenix, AZ, December 8

Professional Activities: Conference Tutorials (continued)

- 2005 “Color Management” (90-minute tutorial), TAGA Annual Conference, Toronto, ONT, Canada, April 17
 “Color Management” (90-minute tutorial), TAGA Annual Conference, Toronto, ONT, Canada, April 17
- 2004 “Optimizing a Sheetfed Lithographic Press” (90-minute tutorial), TAGA Annual Conference, San Antonio, TX, April 18
- 2003 “Digital Photography” (90-minute tutorial), TAGA Annual Conference, Montreal, QUE, Canada, April 6
- 1995 “Color Terminology,” GATF/Rochester Institute of Technology (RIT) Digital Color Conference, Orlando, FL, December 3
- 1992 “Color Measurement,” X-Rite, Inc. Annual Technical Meeting, Grand Rapids, MI, August 25

Professional Activities: Conference Talks

- 2013 “Color Uniformity of Electrophotographic Presses,” TAGA Annual Conference, Portland, OR, February 5
- 2012 “Color Theory and Color Measurement,” PIA Color Management Conference, Scottsdale, AZ, December 2
 “Analysis of Damage to Direct Mail in the Postal Stream” TAGA Annual Conference, Jacksonville, FL, March 19
- 2011 “Color Management and Color Science,” International Conference of Graphic Communication Arts & Science, Teipei, Taiwan, December 9 – Keynote presentation
 “Color Management and Color Science,” PIA Color Management Conference, Phoenix, AZ, December 4
- 2010 “An Overview of Color Management,” PIA Color Management Conference, Phoenix, AZ, December 7
- 2009 “What Is, and What Is Not, Color Management,” PIA Color Management Conference, Phoenix, AZ, December 6
 “Inkjet—The Tiny Giant,” International Conference of Graphic Communication Arts & Science, National Taiwan University of Arts, Pan-Chiao City, Taiwan, ROC, November 25
 “The Relative Accuracy and Effectiveness of Automated Ink Optimization Software,” TAGA Annual Conference, New Orleans, LA, March 16
- 2008 “TAGA—The Early Years,” TAGA Annual Conference, San Francisco, CA, March 17
- 2007 “Lithography in the Digital Age,” International Conference of Graphic Communication Arts & Science, National Taiwan University of Arts, Pan-Chiao City, Taiwan, ROC, December 4
 “The Application of Color Management in High-Quality Lithographic Printing,” Annual Conference of the Inter-Society Color Council (ISCC), Kansas City, KS, April 30
 “The Influences of Rendering Intents on Reproduced Colors Using Color-Managed Graphic Workflows,” TAGA Annual Conference, Pittsburgh, PA, March 19

Professional Activities: Conference Talks (continued)

- 2006 "Applying Color Management to Lithographic Printing Systems," Graphic Communication Technology Trends Conference, National Taiwan University of Arts, Pan-Chiao City, Taiwan, ROC, April 28
- "The Influences of Overprint Coating on the Color Gamuts of Lithographic Prints," TAGA Annual Conference, Vancouver, British Columbia, March 21
- 2005 "Optimization of Lithographic Printing Systems," Print Summit 2005 Conference, Bombay Master Printers' Association (BMPA), Mumbai, India, December 2, 2005
- 2001 "New Graphics Curriculum at Carnegie Mellon," Critical Trends Update Conference, Research and Education Council for the Graphic Arts, Pittsburgh, PA, October 12
- "A History of Graphics at CMU," Governor's Institute for Graphic Communications 2001, Pittsburgh, PA, July 17
- "Graphic Literacy: Survival Skills for the Communication Age," Management Communication Association Conference, Pittsburgh, PA, May 11
- "Ink Trapping and Colorimetric Variation," TAGA Annual Conference, San Diego, CA, May 8
- "Lithography at 200: Controlling the Process," Graphic Communication Technology Trends for the 21st Century Conference, National Taiwan College of Arts, Pan-Chiao City, Taipei County, Taiwan, ROC, March 12
- "The Current Status of Color Management in the Printing Industry," GATF Tech Alert Conference, Pittsburgh, PA, January 31
- 2000 "Advances in High-Resolution Lithography," TAGA Annual Conference
- "An Investigation of the Relationship Between Gray Balance and Printed Dot Area," TAGA Annual Conference
- 1999 "An Analysis of Lithographic Print Attributes," TAGA Annual Conference, Vancouver, BC, Canada, May 4
- 1997 "Adapting to New Technologies," Digital Networked Production Systems Symposium, Pittsburgh, PA, September 23
- "An Objective Measurement of Banding," TAGA Annual Conference, Quebec City, QUE, Canada, May 5
- 1996 "SPC for the Graphic Arts," Graphic Communications Industries Association Annual Conference, Afton, OK, August 9
- "Measurement of Computer-Generated Plates," TAGA Annual Conference, Dallas, TX, April 29
- "Controlling Color Variation," Seybold Conference, Boston, MA, February 28
- "Measurement of Computer-Generated Plates," GATF Tech Alert Conference, Pittsburgh, PA, January 29
- 1995 "Uses of Digital Test Targets," GATF/RIT Digital Color Conference, Orlando, FL, December 5

Professional Activities: Conference Talks (continued)

- 1995 (cont.) "Computer-to-Plate Research Report," GATF/PIA Joint Annual Meeting, Williamsburg, VA, October 30
- "Recent Developments in Newspaper Publishing," Tasman Pulp and Paper Conference, Queenstown, New Zealand, October 17
- "Color Reproduction in Newspapers," Tasman Pulp and Paper Conference, Queenstown, New Zealand, October 16
- "Digital Color Reproduction in Newspapers," Newspaper Exposition (NEXPO), Atlanta, GA, June 26
- "A Manager's View of Computer-to-Plate Systems," GATF/National Association of Printers and Lithographers (NAPL) Sheetfed Conference, Chicago, IL, June 25
- "Computer-to-Plate Test Results," TAGA Annual Conference, Orlando, FL, April 3
- "ISO 9000 vs. the Malcolm Baldrige Award," Statistical Process Control (SPC) Users Group, New Orleans, LA, March 12
- "Research Findings of Computer-to-Plate Systems," GATF Tech Alert Conference, Pittsburgh, PA, January 30
- 1994 "Characteristics of Stochastic Screening," GCA Spectrum Conference, Phoenix, AZ, September 20
- "Results from Waterless Printing Study," Waterless Printing Association, Pittsburgh, PA, June 8
- "Stochastic Screening and Waterless Printing," TAGA Annual Conference, Baltimore, MD, May 3
- "Digital Control Tools for Newspaper Reproduction," Great Lakes/Mid States Newspaper Conference, Toronto, ONT, Canada, February 12
- "Process Control for Stochastic Screening, On-Demand Printing, & Waterless Printing," GATF Tech Alert, Pittsburgh, PA, January 17
- 1993 "Digital Proof Comparator," GCA Spectrum Conference, Phoenix, AZ, September 13
- "Process Control," GATF/NAPL Sheetfed Conference, Chicago, IL, July 28
- 1991 "GATF Digital Test Form," Society of Photographic Scientists and Engineers (SPSE) Prepress Conference, Chicago, IL, September 12
- "Development of the GATF Digital Test Form," International Association of Research Institutes for the Graphic Arts (IARIGAI) Conference, Pittsburgh, PA, May 14
- "Frequency-Modulated Acutance Guide," TAGA Annual Conference, Rochester, NY, May 7
- 1990 "GATF/RHEM Light Indicator," GCA Spectrum Conference, Phoenix, AZ, September 19
- 1989 "Testing to Optimize Lithographic Printing," TAGA Annual Conference, Orlando, FL, April 3
- 1988 "Implications of Specifications for Non-Heatset Advertising Printing (SNAP)," PIA Non-Heatset Conference, San Diego, CA, October 18

Professional Activities: Conference Talks (continued)

- 1988 “Development of New Test Images for Printing,” GATF Research Forum, Chicago, IL,
(cont.) August 15
- “Color Reproduction in Newspapers,” Pacific Area Newspaper Publishers Association
(PANPA) Conference, Canberra, Australia, April 21
- “QC Targets,” 3M Corp. Regional Printing Conference, Dallas, TX, April 5
- “SNAP Activities,” GATF InterTech Conference, Pittsburgh, PA, January 25
- 1987 “Color Reproduction Requirements,” PIA Non-Heatset Conference, Hilton Head, SC,
 November 10
- “GATF Sheetfed Test Form,” GATF Fall Meetings, Ponte Verde Beach, FL, October 29
- “GCA/GATF Proof Comparator,” GCA Spectrum Conference, Phoenix, AZ, September 16
- “Test Image Development,” GATF QC Conference, Chicago, IL, August 10
- “Print Quality in Newspapers,” Tokyo Kikai Seisakusho, Ltd. (TKS) User’s Group Annual
Meeting, Las Vegas, NV, June 8
- “GATF Newspaper Activities,” America East Newspaper Conference, Hershey, PA,
March 26
- 1986 “Electronic Image Manipulation,” 3rd International Congress of Nonimpact Printing
Technologies, San Francisco, CA, August 27
- “Colorimetry,” X-Rite, Inc. Annual Sales Conference, Grand Rapids, MI, July 15
- “Artists’ Requirements for Color Reproduction,” Southwest Graphics Conference, Houston,
TX, June 14
- “Requirements for Newspaper Color Reproduction,” Goss Metro Users Meeting, Ft.
Lauderdale, FL, April 8

Professional Activities: Panel Discussions

- 1997 Panel and roundtable moderator, “Stochastic Screening,” GATF/NAPL Sheetfed Conference,
Chicago, IL, June 27
- Panel presenting results from Digital Proofing Study, GATF Tech Alert Conference,
Pittsburgh, PA, January 27

Professional Activities: Workshop Instruction

- 2000 The Reproduction, Perception, and Measurement of Color, Xerox Corp., Webster, NY,
July 13–14
- 1988–96 Advanced Sheetfed Press Operating, GATF, Pittsburgh, PA (semiannually)
- 1986–96 Sheetfed Press Operating, GATF (semiannually)
- Web Press Operating, GATF (semiannually)
- Color Controls, GATF (semiannually)

Professional Activities: Workshop Instruction (continued)

- 1994–95 Calibrating Electronic Prepress to Press Conditions (workshop leader), GATF (annually)
 ISO 9000 (workshop leader), GATF (annually)
- 1994 SPC Tools, GATF
 Digital Color Reproduction in Newspapers (workshop leader), Technical Association
 of Latin American Newspapers, Maracaibo, Venezuela
- 1993 Print Analysis and Test Targets (workshop leader), Komori America, Rolling Meadows, IL
- 1986–92 Executive Technology, GATF (annually)
- 1986–90 Orientation I and II, GATF (quarterly)
 Prepress Production, GATF (semiannually)
- 1990 Journey of the Image, Agfa, Pittsburgh, PA
 Controlling Color Variation, DuPont, Pittsburgh, PA
- 1989 Color Reproduction in Newspapers (workshop leader), Technical Association of Latin
 American Newspapers, Santiago, Chile
- 1988 Measuring Print Attributes (workshop leader), International Newspaper Association, Ft.
 Lauderdale, FL
- 1986–88 Advanced Teacher Institute, GATF (annually)
- 1985–87 Tetra-Pak Printing Technology Series, GATF, Pittsburgh, PA (quarterly)

Professional Activities: Seminars

- 1999–04 “Optimizing a Sheetfed Press,” GATF, Sewickley, PA, July 9, December 9, 1999; July 12,
 December 6, 2000; February 14, May 17, August 16, 2001; August 21, 2002; November 24,
 2003; May 20, October 22, 2004
- 1999 “Quality Control for Consistent Color Appearance Across Various Press Systems,” Lifetouch
 National School Studios, Inc., Minneapolis, MN, July 13
 “The Future of Graphic Technologies” (series of three one-hour presentations),
 Johannesburg, Cape Town, and Durban, South Africa, June 8–10
 “The History and Technology of Stochastically Screened Images,” Presstek, Inc., Nashua,
 NH, May 19
- 1998 “The Changing Technologies of Graphic Reproduction,” Lane Press Symposium, Burlington,
 VT, September 28
- 1998 “Digital Proofing: The Latest Technologies,” Graphix East 98, Philadelphia, PA, June 27
 “Digital Printing Companies of the Future,” Graphix East 98, Philadelphia, PA, June 26
- 1996 “The Use of SPC Tools in Graphic Reproduction,” Graphic Communications Industries
 Association, Stillwater, OK, June 25
 “Controlling Color Variation: Prepress,” Printing Industries of Minnesota, Minneapolis, MN,
 May 2

Professional Activities: Seminars (continued)

- 1996
(cont.) “Test Images for Process Control,” Printing Industries of Minnesota, Minneapolis, MN, May 2
- “Press Testing,” Printing Industries of Minnesota, Minneapolis, MN, March 21
- “Controlling Color Variation: Press,” Printing Industries of Minnesota, Minneapolis, MN, March 21
- “Controlling Color Reproduction in Prepress,” Graphics of the Americas, Miami, FL, January 20
- 1995 “Press Testing for Color Reproduction,” The Charlotte Show, Charlotte, NC, March 18
- “Controlling Color Variation,” The Charlotte Show, Charlotte, NC, March 16
- “Process Control for Newspaper Color Reproduction,” Pittsburgh Post-Gazette, Pittsburgh, PA, February 20 and March 6
- 1994 “Measuring and Controlling Color Variation,” Graph Expo East, Philadelphia, PA, September 27
- “ISO 9000 for the Graphic Arts,” Graph Expo East, Philadelphia, PA, September 25
- “Controlling Color Variation,” Printing Industries of Virginia, Richmond, VA, March 26
- “Controlling Color Variation: Press,” Printing Industries of Washington, Seattle, WA, March 4
- “ISO 9000 for the Graphic Arts,” Printing Industries of Washington, Seattle, WA, March 3
- “Electronic Imposition,” Concepts Prepublishing Conference, Orlando, FL, February 16
- “Controlling Color Variation: Press,” The Charlotte Show, Charlotte, NC, March 19
- “Press Testing,” The Charlotte Show, Charlotte, NC, March 18
- 1993 “Controlling Color Variation: Press,” Graph Expo, Chicago, IL, November 3
- “ISO 9000 for the Graphic Arts,” Graph Expo, Chicago, IL, November 1
- “The Use of Test Images for Process Control,” The Charlotte Show, Charlotte, NC, March 20
- 1992 “Process Control,” Craftsmen’s Club of Utah, Salt Lake City, UT, October 27
- “Controlling Digital Prepress,” Craftsmen’s Club of Utah, Salt Lake City, UT, October 27
- “Process Control,” Andegraf, Cali, Colombia, September 4
- “Digital Prepress,” Andegraf, Bogotá, Colombia, September 3
- “Lithographic Process Control Strategies,” Linotype-Hell, Pittsburgh, PA, February 14
- 1991 “Test Images and Electronic Prepress,” Association of Litho Clubs, Boston, MA, June 29
- “Trends in Lithographic Printing,” Man Roland Co., Toronto, ONT, Canada, June 20
- “Calibrating Electronic Prepress to Press Conditions,” Printing Industries of Minnesota, Minneapolis, MN, May 9
- “Process Control and Digital Reproduction,” Label Printer’s Association, Pittsburgh, PA, April 23

Professional Activities: Seminars (continued)

- 1991 (cont.) "Press Testing for Process Control and Quality Optimization," The Charlotte Show, Charlotte, NC, March 9
- "Controlling Color Variation," The Charlotte Show, Charlotte, NC, March 7
- 1990 "Pressroom Considerations," DuPont Printing & Publishing, Wilmington, DE, October 4
- "Journey of the Image," DuPont Printing & Publishing, Wilmington, DE, October 3
- "Use of QC Devices," DuPont Printing & Publishing, Wilmington, DE, October 3
- "Controlling Color Variation," Graph Expo East, New York, NY, September 25
- "Calibrating for Color Reproduction," West Publishing Co., St. Paul, MN, May 2
- "Press Testing," Craftsmen's Club of Utah, Salt Lake City, UT, April 26
- "Press Testing," Printing Industries of the Rocky Mountain States, Denver, CO, April 24
- "Controlling Color Variation," Printing Industries of Minnesota, Minneapolis, MN, March 28
- "Test Images for Process Control," Printing Industries of Virginia, Richmond, VA, March 10
- 1989 "Test Images for Process Control," Graph Expo, Chicago, IL, October 16
- "Controlling Color Variation," SW Graphics, San Antonio, TX, June 9
- "Testing to Optimize Lithographic Printing," Printing Industries of Georgia, Atlanta, GA, May 12
- "Testing to Optimize Lithographic Printing," GATF, Toronto, ONT, Canada, May 11
- "Controlling Color Variation," PIANO, Cleveland, OH, April 27
- "Press Testing," GATF, Dallas, TX, April 11
- "Test Images for Process Control," The Charlotte Show, Charlotte, NC, March 3
- 1988 "Test Images for Process Control," SW Graphics, San Antonio, TX, June 10
- "Test Images for Process Control," Printing Industries of Minnesota, Minneapolis, MN, March 2
- "Controlling Color Variation: Press," Graphic Arts Council of North America (GACNA), New York, NY, March 18
- 1987 "Controlling Color Variation: Press," Graph Expo, Chicago, IL, November 17
- "Controlling Color Variation: Press," The Charlotte Show, Charlotte NC, March 13
- "Prepress Operations," PAMEX All India Printer's Conference, Bombay, India, January 20
- "Electronic Color Image Assembly," PAMEX All India Printer's Conference, Bombay, India, January 19
- "Color Scanning," PAMEX All India Printer's Conference, Bombay, India, January 18
- 1986 "Press Control: Print Attributes and Targets," Spectrum Plus, Chicago, IL, November 18

Professional Activities: Seminars (continued)

- 1986 (cont.) “Preparation of Materials for Printing,” Printing Industry of Metropolitan Washington, Washington, DC, October 29
- “QC for the Pressroom,” Printing Industry of Metropolitan Washington, Washington, DC, October 29
- “Test Images for Web Production,” Spectrum, Chicago, IL, January 30
- “Test Images for Web Production,” Spectrum, New York, NY, January 28

Professional Activities: Judging

- 2012 Andigraf (Asociación Colombiana de la Industria Gráfica), Annual Print Contest, Bogotá, Colombia, August 13–17
- 2003–1997 South African Pulp and Paper Industries, Ltd. (SAPPI) North America Printer of the Year, Portland, ME, March 13–15, 2003; March 21–23, 2002; March 1–3, 2001; February 17–18, 2000; March 3–5, 1999; March 4–5, 1998; February 24–25, 1997
- 2003–1997 South African Pulp and Paper Industries, Ltd. (SAPPI) International Printer of the Year, New York, NY, October 8, 2003; Washington, DC, October 14, 1999; Monte Carlo, Monaco, October 1, 1998; Cape Town, South Africa, September 18, 1997
- 2000 Accenture E-Commerce Challenge, Carnegie Mellon University, February 4–5
- 1999 SAPPI South Africa Printer of the Year, Johannesburg, South Africa, June 7
- 1992 Andigraf (Asociación Colombiana de la Industria Gráfica), Annual Print Contest, Bogotá, Colombia, August 31–September 2

Editorial Boards

- 2013–2002 *McGraw-Hill Encyclopedia of Science & Technology* and the *Yearbook of Science and Technology*—consulting editor in the field of Graphic Arts and Photography
- 2013–2003 *TAGA Journal*—editorial board evaluating submissions related to color reproduction, process controls, and print attributes

Professional Committee Activities

- 2011–2000 Technical Association of the Graphic Arts: Immediate Past President (2009–2011); President (2007–2009); Executive Vice President (2005–2007); Vice President of Technical Papers (2003–2005); Secretary/Treasurer (2002–2003); Board of Directors (2000–2002)
- 2007–2004 Teachers’ Advisory Committee for national organization of Students in Free Enterprise (SIFE)

Professional Organizations

- 2013–1978 Technical Association of the Graphic Arts
- 2013–1996 Printing Industries of America/Graphic Arts Technical Foundation
- 2013–2000 Inter-Society Color Council

Patent

1994 “Frequency-Modulated Acutance Guide and Method of Use” (co-inventor Richard Warner) U.S. Patent No. 5,311,246, May 10

Honors

2013 Michael H. Bruno TAGA Award for outstanding contributions to the Graphic Arts Industry

2013–2001 SIFE, Sam M. Walton Free Enterprise Fellow

2003 Carnegie Mellon University, Graduate School of Industrial Administration, Sustained Teaching Excellence in Business Administration Award, May 17

1992–1988 GATF, Gilbert W. Bassett Memorial Fellowship

1981–1979 TAGA/National Scholarship Trust Fund, Printing and Publishing Industry Fellowship