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Mathias, Harry

San Jose State University

3-20-2023

Mathias, Harry

San Jose State University

Detailed Curriculum Vitae

Harry Mathias

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USA

Education

San Francisco State University: Bachelor of Arts Degree in Radio, Television, Film. 1968

San Francisco State University: Master of Arts Degree in Creative Arts Interdisciplinary Studies, 1968 to 1974, with a degree emphasis in: Film Production, Broadcast TV Production, Broadcast Engineering, Drama, and Computer Graphic Video Imaging Systems Design.

San Francisco State University, Graduate Teaching Assistant for Dr. Richard Marsh, PhD in Communications Theory and Far Eastern Religions for 2 semesters.

The worldwide film production industry, I have Fifty-five years of experience making all kinds of films in various senior capacities, but principally as a Director of Photography. I have been responsible for over one hundred feature motion pictures, hundreds of television films, hundreds of documentaries, scores of commercials, and music videos.

Teaching at San Jose State University

San Jose State University, Associate Professor and Associate Chair of The Department of Film & Theatre. Fall 2012 to Present.

I teach the following classes, all of which I designed, as they did not exist before I joined the faculty:

- **Cinematography** covers both film and digital cinema production mastery and lighting. I utilize a teaching methodology that I pioneered in my last and my current book, which uses the same image control techniques for film and digital cinema image control, exposure and lighting.

- **Advanced Cinematography** using 35mm cameras, and digital cinema cameras. This course covers both film and digital cinema production mastery and lighting on a much more advanced level. The students work on advanced narrative projects shot on 35mm film and utilizing digital cinema cameras. This course also adds to the student's creative work portfolio.

- **Advanced Editing of the Dramatic Short Film** using AVID, Final Cut Pro, and Premier Pro non-linear editing software systems. I utilize a teaching methodology that I pioneered at SJSU. This is an in-depth course in the advanced editing skills needed for cutting narrative and dramatic films. This class focuses on creative styles, and the principals of editing a dramatic or comedic film. The techniques taught in this class are equally applicable to film and to digital cinema editing. Students in this class team up and cut as many as five of the short films that my own production class film students have already shot as in-class end of the semester projects in previous years.

- **Making Films that move Audiences!** This new class views and analyses some of the most compelling films of history. We learn why they are so powerful, and some of the techniques and methods that make them so

memorable. This class will expose students to years of great films in one class. The purpose of this class is not to survey film history, but to understand what goes into making a great film. Students achieve an understanding of the enduring principles of motion picture storytelling through lectures, discussions, and screenings. The goal is to acquire an appreciation of the visual art of the cinema, and the techniques of direction, acting and cinematography. The expert analysis and critical judgment taught in this class will apply equally to understanding digital and film cinema.

I also teach these classes which I did not design:

- **Alternative Cinema: The Visual Art of Film** This is a variation on an existing course, which focuses on the critical study of cinema. My variation teaches students how to "read" the filmic medium as a visual art form. We explore the analysis and interpretation of lighting, camera techniques and composition. These are the key structural elements of the cinema as a visual language. The students are brought to an understanding of cinema technically, terminologically, and structurally, by reviewing, discussing, and writing about key culturally important international films.

- **Film as a Visual Artform** This course focuses on the critical study of cinema. It teaches students how to "read" the filmic medium, that is, how to analyze and interpret it. This requires that they understand cinema technically, terminologically, and structurally. This also requires thinking about the art of the cinema critically, theoretically, structurally, and culturally.

- **Intermediate Production** teaches the modern techniques of film (single camera) and live television (multi-camera) production. This class consists of lectures, text readings, lab and crew production work. Students write, produce, and direct their own projects. They get experience working with talent, editing their portfolio level exercises and productions. This course also adds to the student's creative work portfolio.

- **Independent Projects** teaches the modern art of film and digital cinema production processes, techniques, and the use of production tools. Utilizing lectures, demonstrations, and through the student having an assigned part in a production crew, they learn to work with talent, accomplish project related tasks and the managing of sets, props and equipment.

- **Film History Post 1945** teaches The history and evolution of the motion picture since 1945. Through the viewing of representative films, study and discussion of major world film movements, important directors, and key genres. The student becomes conversant in the styles and methods of the cinematic language, and its history.

University fundraising: After a period of careful interaction and negotiations with the entire upper management team at Panavision Inc., I was able to secure the donation to the University of a large Panavision Panaflex 35mm film camera and lens package, including multiple lenses and accessories; and a complete Genesis digital cinema camera package at no charge to the University, so that we may use it for teaching purposes and for student film projects. This was made possible by Panavision's management awareness of my books and teaching methodology. This has actually doubled the equipment available to the University for teaching high production value cinematography and production. The value of this equipment is 1.6 to 1.9 million dollars US. The value to our curriculum is priceless. It means that our graduating students are comfortable working with professional level cinema and digital cinema equipment, at no cost to the university, except for shipping the equipment.

Santa Fe University of Art and Design, Chair of the Moving Image Arts department, and Full Professor of Cinematography. Fall 2010 to Spring 2012

I taught the following classes, all of which I designed.

- **Cinematography** covers both film and digital cinema production mastery and lighting. I utilized a teaching methodology that I pioneered in my last and my current book, which uses the same image controlled techniques for film and digital cinema image control, exposure and lighting.

- **Advanced Cinematography** using 16mm and 35mm cameras, and digital cinema cameras. This course covered both film and digital cinema production mastery and lighting on a much more advanced level.

- **Major Filmmakers**, this was a critical studies class that screened and analyzed the 32 major films which "changed the world". Meaning that they had the greatest impact on the world's aesthetic and emotional shared human mass culture (zeitgeist). This was the most popular class in the Moving Image Arts curriculum, by far, and it also drew many students from the Performing Arts, Creative Writing, Contemporary Music, Fine Arts, and Graphic Design departments.

Alternatively, I often taught my other unique classes:

- **Digital Cinema Technology**, a theory and practicum class in digital cinema technology, production and postproduction workflow.

- **Production**, this was a theory and practicum class in narrative dramatic, documentary and personal statement film production. This class covered all aspects of the production process, from script breakdown, planning, budgeting, production management, through to post production and distribution.

My Santa Fe University committee service, and governance activities: University Leadership committee, University Curriculum and Academic Procedures committee (UCAP), University Assessment and Evaluation committee, Department Chairs committee, Chair of the Moving Image Arts Department Faculty committee, Chair of Film & Digital Production committee, Chair of Visiting Artists Committee, Chair Student Recruitment and Enrollment committee, Organizing Committee for Faculty Senate.

Invited Master Classes taught as a guest at other Universities

The London Film School, Visiting Professor, London, England July 26th, 2017
Invited meeting with the professors and Department Chair of this MFA graduate University program in film production, to plan and share production pedagogy and cinematography best teaching practices. Their cinematography and production departments are adopting my book for use in this University curriculum.

San Francisco State University, Visiting Professor, March 16th, 2017
I taught a daylong master class in cinematography, creative image control, editing, and film production to several classes of MFA grad students at the Cinema department in this University program**.**

Baylor University in Waco Texas, Visiting Professor, September 15th, 16th, 17th, 2016.
I taught a 3 daylong master class in cinematography, creative image control, editing, and film production to several classes of grad students at this post-graduate advanced production University program.

The Banff Center for the Arts, University of Ottawa, Visiting Professor, The week of March 26th 2016.
I taught a week-long master class in cinematography, creative image control, editing, and film production to several classes of Fellows at this post-graduate advanced production arts institute.

American University, Washington D.C., Visiting Professor. Summer Intensive Seminar on Film Directing Technique, June to July 1986. I taught a month-long summer master class in film Directing, and production.

Publications:

Books

Harry Mathias, Author of ***The Death & Rebirth of Cinema: MASTERING THE ART OF CINEMATOGRAPHY IN THE DIGITAL CINEMA AGE***, published by Waterfront Press, on Dec. 2015, ISBN 978-1-943625-14-7
Also available as a Kindle E-book as ISBN 978-1-943625-13-0

Harry Mathias, Author, and Richard Paterson, Coauthor of ***ELECTRONIC CINEMATOGRAPHY: Achieving Photographic Control Over The Video Image***, published by Wadsworth Publishing, (Since it was first published in 1985, the book has been reprinted 4 times, and is now in a new paperback printing), also translated into Spanish and published as ***Cinematografia Electronica***, translated into Greek and published as **Hilektroniki Kinimatografia**, in 2006, and distributed worldwide.

Coauthor, with former Vice President Al Gore, of ***HDTV, THE POLITICS, POLICIES, AND ECONOMICS OF TOMORROW'S TELEVISION***, a book published by Union Square Press

Contributing author to ***TELEVISION IMAGE QUALITY***, a book published by the Society of Television and Motion Picture Engineers

Contributing author to ***THE AMERICAN CINEMATOGRAPHERS HANDBOOK***

Contributed author to ***THE AMERICAN CINEMATOGRAPHERS VIDEO HANDBOOK***

Periodicals and Published Papers – Peer-Reviewed Journals

"TECHNOLOGY IS IMPORTANT, BUT STORY-TELLING IS THE FUTURE" a five-page in-depth interview with Managing Editor: Jim Slater that I did for the 30 Year Anniversary Edition of ***Cinema Technology magazine*** (a review of my London invited talk was also in that issue of the magazine.) *December 2017 • Volume 30 • No.4* Published and distributed by the International Motion Image Society, London.

"Hot Button Discussion: Creative Control as the Palette Expands" Harry Mathias and Michael Goldman, co-authored an article based on my ideas on the SMPTE website of the Society of Motion Picture and Television Engineers, February 2017

"Gamma and Dynamic Range Needs for an HDTV Electronic Cinematography System," ***SMPTE Journal***, 96:840, Sept. 1987.

"A Proven Method of Establishing Exposure Indexes for Video Cameras," ***SMPTE Journal***, 94:1028, Oct. 1985.

"Image Quality from a Non-Engineering Viewpoint," ***SMPTE Journal***, 93:712, Aug. 1984.

The SMPTE Journal is the, peer reviewed, official publication of The Society of Television and Motion Picture Engineers, an international Standards setting group for motion pictures and television technology.

Numerous articles and published studies were also published in each of the following magazines: ***THE INTERNATIONAL PHOTOGRAPHER***, ***THE BKST JOURNAL***, ***FILM JOURNAL INTERNATIONAL***, ***BOXOFFICE***, ***ON LOCATION***, ***AMERICAN CINEMATOGRAPHER***, ***VIDEO SYSTEMS*** (I was the Contributing Editor of ***Video Systems***, 1978-80). Complete list of writings on request.

Invited Lectures (Selected)

"Teaching the Zone System in the Age of Digital Cinema HDR and Other Anachronisms" An invited talk and soon to be a published paper for the **3th International Conference on teaching and researching Cinematography** hosted by RITCS and INSAS, Brussels and in association with the Lusofona University, Portugal, during the conference to be held in Brussels 4-5-6 April 2019. This conference is held by IMAGO the International Association of Cinematographers.

"*HDR and Wide Color Gamut - What Do They Mean to the Future of Cinema"* an invited paper by Harry Mathias, The Twentieth Annual Seminar Series of the International Cinema Technology Association, Universal City, CA, January 2019.

"*Technology vs. Art in today's* C*inema VR"* an invited paper by Harry Mathias, The Nineteenth Annual Seminar Series of the International Cinema Technology Association, Universal City, CA, January 2018.

"*A Seminar on Virtual Reality and Augmented Reality in Cinema*", presented by the International Moving Image Society at the Historic Regent Street Cinema, London. This invited talk was streamed worldwide as a webinar on October 26th 2017.

"*HDR as a Dramatic Imaging Tool Examined from a Cinematographer's Point of View*", Society of Motion Picture and Television Engineers (SMPTE) Educational Webinar, Streamed Worldwide on April 6th, 2017.

"*VR in the Cinema and the Explosion of Technology in the Cinema*" an invited paper by Harry Mathias, The Eighteenth Annual Seminar Series of the International Cinema Technology Association, Universal City, CA, January 2017

"*WWII Cargo Cults, And Their Implications for the Future Of Digital Cinema Imaging and Sound*" an invited paper at The IEEE conference on Human Vision and Electronic Imaging Conference XIX, Paper Number: 9014-9, San Francisco, February 2014

"*The Coming Revolution! The Current State Of Digital Cinematography*" an invited paper by Harry Mathias, The Fifteenth Annual Seminar Series of the International Cinema Technology Association, Universal City, CA, January 2010

"*Digital Theatre Design Considerations for Alternative Content and Interactive Gaming*" Harry Mathias, Panel Moderator, ShoWest, Las Vegas, March 2009

"*An Analysis of Film Image Quality Issues that also apply to Digital Cinema.*", Harry Mathias, Hollywood Post Alliance's Annual Technology Retreat, Palm Springs, February 2009

"*Digital Cinema Future Worldwide, in a Tight Credit World*", Harry Mathias, Hollywood Post Alliance's Annual Technology Retreat, Palm Springs, February 2009

"*An Analysis of Film Quality Presentation Issues That Also Apply to Digital Cinema*", Harry Mathias, The Fourteenth Annual Seminar Series of the International Cinema Technology Association, Universal City, CA, January 2009

"*Digital Cinema Distribution Lessons That Can Be Learned From TV Broadcasting Networks*", Harry Mathias, The Fourteenth Annual Seminar Series of the International Cinema Technology Association, Universal City, CA, January 2009

"*Pursuing the Bumpy Road to Full Digital Deployment*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Long Beach, CA, July 2008

"*The Cinema of the Future*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Long Beach, CA, July 2008

"*Why Linux? Why it Makes the Perfect Digital Cinema Operating System*", Harry Mathias, Cinema Expo, Amsterdam, The Netherlands, June 2008

"*Advanced Cinema Networking Topologies*", Harry Mathias, ShoWest, Las Vegas, March 2008

"*Factors Impeding Large Scale Digital Cinema Industry Conversion*", Harry Mathias, Hollywood Post Alliance's Annual Technology Retreat, Palm Springs, February 2008

"*2K or 4K Digital Cinema Production Resolution Which will Prevail and Why*?", Harry Mathias, Hollywood Post Alliance's Annual Technology Retreat, Palm Springs, February 2008

"*Why Linux? Why it Makes the Perfect Digital Cinema Operating System*", Harry Mathias, The Thirteenth Annual Seminar Series of the International Cinema Technology Association, Universal City, CA, January 2008

"*The Screen Geometry Study, a look back by the Author 10 years Later*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Cambridge, Massachusetts, August 2007

"*Current Business Considerations in Digital Cinema Deployments*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Cambridge, Massachusetts, August 2007

"*To NOC, or Not to NOC, that is the Question*." Strategies for Digital Cinema Centralized Remote Management", Harry Mathias, Cinema Expo, Amsterdam, The Netherlands, June 2007

"*Lessons Learned and Contingencies to Expect When Deploying Digital Cinema Technologies*" Panel, Harry Mathias, Moderator, Cinema Expo, Amsterdam, The Netherlands, June 2007

"*Field Maintenance of Digital Cinema Systems, a Tutorial*", Harry Mathias, ShoWest, Las Vegas, March 2009

"*Digital Cinematography: Achieving Photographic Control over Digital Images*", Harry Mathias, Hollywood Post Alliance's Annual Technology Retreat, Palm Springs, February 2007

"*Consistent Color-Temperature Calibration Techniques and Technology in Digital Cinema Production*", Harry Mathias, Hollywood Post Alliance's Annual Technology Retreat, Palm Springs, February 2007

"*To NOC, or Not to NOC, that is the Question*" - Strategies for Digital Cinema Centralized Remote Management", Harry Mathias, The Twelfth Annual Seminar Series of the International Cinema Technology Association, Universal City, January 2007

"*Lessons Learned, and Contingencies to Expect when deploying D-Cinema*" Panel, Harry Mathias, Moderator, The Twelfth Annual Seminar Series of the International Cinema Technology Association, Universal City, January 2007

"*Practical Field Experience with Digital Cinema Robustness and Serviceability, a Survey and Analysis*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Santa Barbara, CA, August 2006

"*Color Temperature Production Calibration, a New Method Proposed for End-to-End Calibrated Workflow*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Santa Barbara, CA, August 2006

"*Colour Temperature Production Calibration, a New Method Proposed for End-to-End Calibrated Workflow*", Harry Mathias, Cinema Expo, Amsterdam, The Netherlands, June 2006

"*Advanced Cinema Networking Topologies*", Harry Mathias, Cinema Expo, Amsterdam, The Netherlands, June 2006

"*Digital Cinema Current Rollout Business Issues*" Panel , Harry Mathias, Moderator, The Eleventh Annual Seminar Series of the International Cinema Technology Association, Universal City, CA, January 2006

"*Advanced Cinema Networking Topologies*", Harry Mathias, The Eleventh Annual Seminar Series of the International Cinema Technology Association, Universal City, CA, January 2006

"*Cinema Color - Timing in a Film and Digital World*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Quebec City, Canada, August 2005

"*The DCI Digital Cinema Specification Update*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Quebec City, Canada, August 2005

"*Digital Cinema Progress Update*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Quebec City, Canada, August 2005

"*Cinema Colour - Timing in a Film and Digital World*", Harry Mathias, Cinema Expo, Amsterdam, The Netherlands, June 2005

"*Image Colours and Screen Surface Technologies*", Panel, Harry Mathias, Moderator, Cinema Expo, Amsterdam, The Netherlands, June 2005

"*Expandable Theatre Networking Systems - Preparing for the Future*", Harry Mathias, Cinema Expo, Amsterdam, The Netherlands, June 2005

"*Advanced Cinema Networking Considerations*" Panel, Harry Mathias, Moderator, Cinema Expo, Amsterdam, The Netherlands, June 2005

"*A New Proposed Digital Cinema Workflow, and its Dependence on Accurate Projection Display Monitoring*", Harry Mathias, NAB (The Conference of the National Association of Broadcasters), Las Vegas. April 2005

"*A Unique High Speed Distributed Fiber-optics based Digital Cinema Content Distribution and Management System*", Harry Mathias, The Tenth Annual Seminar Series of the International Cinema Technology Association, Universal City, January 2005

"*A DCI Compliant Digital Cinema Content Server*", Harry Mathias, The Tenth Annual Seminar Series of the International Cinema Technology Association, Universal City, January 2005

"*Latest Proposed Digital Cinema Business Models*", Panel, Harry Mathias, Moderator, The Tenth Annual Seminar Series of the International Cinema Technology Association, Universal City, January 2005

"*Cinema Advertising Networks, current and Future Software Architectures*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Monterey, CA, August 2004

"*Digital Cinema Proposed File Systems*", Harry Mathias, Cinema Expo, Amsterdam 2004

"*Digital Cinema Server Software and the Necessary Hardware Systems for Fault-Tolerant Decentralized System Management*", Harry Mathias, ShoWest, Las Vegas, March 2004

"*Digital Cinema - Prelude to Deployment, Panel*, Harry Mathias, Moderator, International The Ninth Annual Seminar Series of the International Cinema Technology Association, Universal City, January 2004

"*A Brief Survey of Digital Cinema Server Technology and Issues with the Current Software*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Newport, RI, August 2003

"*Practical Experience with Digital Cinema Projectors in the Early Test Sites*" , Harry Mathias, Cinema Expo, Amsterdam

"*A Proposed Plan to Utilize DLP Digital Cinema Projectors for use in Post Production Colorist Workflows*", NAB (The Conference of the National Association of Broadcasters), Las Vegas, April 2003

"*Lessons Learned from Practical and Experimental Cinema Production in the Field*", Harry Mathias, Hollywood Post Alliance's Annual Technology Retreat, Palm Springs, February 2003

"*Real Rate of Adoption of Digital Cinema, and the Forces that Resist the Change*", Harry Mathias, Hollywood Post Alliance's Annual Technology Retreat, Palm Springs, February 2003

"*Installation, Care and Feeding, of the Current-Technology Digital Cinema Projectors*", Harry Mathias, The Eighth Annual Seminar Series of the International Cinema Technology Association, Universal City, 2003

"*Digital Cinema, the Future is Here - Case Studies in the US and Worldwide*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Coronado, CA, August 2002

"*Digital Cinema, the Future is Here - Case Studies in the US and Worldwide*", Harry Mathias, Cinema Expo, Amsterdam 2002

"*Digital Cinema, the Future is Here - Case Studies in the US and Worldwide*", Harry Mathias, NAB (The Conference of the National Association of Broadcasters), Las Vegas, April 2002

"*Digital Cinema, the Future is Here - Case Studies in the US and Worldwide*", Harry Mathias, ShoWest, Las Vegas, March 2002

"*Theoretical and Actual Field Experience with Digital Cinema Dependability and Maintenance Needs*", Harry Mathias, Hollywood Post Alliance's Annual Technology Retreat, Palm Springs, February 2002

"*Digital Cinema Deployment Number Analysis and What it Means*", Harry Mathias, Hollywood Post Alliance's Annual Technology Retreat, Palm Springs, February 2002

"*Digital Cinema, the Future is Here - Case Studies in the US and Worldwide*", Harry Mathias, The Seventh Annual Seminar Series of the International Cinema Technology Association, Universal City, January 2002

"*Digital Cinema, the Future is Here - Case Studies in the US and Worldwide*", Harry Mathias, ShowEast, Orlando, FL, October 2001

"*The Theatre Chain as a Network: The Entertainment and Information Delivery System of the Near-Future*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Bad Kruznach, Germany, August 2001

"*The Theatre Chain as a Network: The Entertainment and Information Delivery System of the Near-Future*", Harry Mathias, Cinema Expo, Amsterdam, The Netherlands, June 2001

"*The Effects of Digital Cinema Networks on Future Cinema Art House and Revival Movie Content*", Harry Mathias, The National Association of Theatre Owners, New York, April 2001

"*The Effectiveness of Currant Installation and Calibration Practices for the DLP Digital Cinema Projector*", Harry Mathias, The Sixth Annual Seminar Series of the International Cinema Technology Association, Universal City, January 2001

"*Color Theory and Practice in the Digital Cinema Simulation of Film Colorspace*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Hilton Head, SC, August 2000

"*Colour Theory and Practice in the Digital Cinema Simulation of Film Colourspace*", Harry Mathias, Cinema Expo, Amsterdam, The Netherlands, June 2000

"*Film Color Timing Usage and Practices Tutorial - A Report to the SMPTE DC-28 Digital Cinema Mastering Plenum Session Convocation*" Harry Mathias, Burbank CA, May 2000

"*Film into Pixels, A Scientific Look at D-Cinema Image Quality*", Harry Mathias, Paper 21 at The 34th Society of Motion Pictures and Television Engineers Winter Imaging Conference, San Francisco, CA, January 2000

"*An Analysis of the Methodology used to Transmit and Receive Bounce the First Satellite delivered Movie in History*", Harry Mathias, The Fifth Annual Seminar Series of the International Cinema Technology Association, Universal City, January 2000

"*A Proposed Cinema Lens Alignment Gauge to minimize Keystone Distortion in Film*", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Lake Tahoe, NV, August 1999

"*The Architecture and Functionality of the Embedded Control Software Utilized in Current DLP Cinema Projection Systems and Future Functionality Requirements*", Harry Mathias, Cinema Expo, Amsterdam,The Netherlands, June 1999

"*Methodology for the DLP Cinema Projector 3-color DMD Calibration and Convergence*", Harry Mathias, The Fifth Annual Seminar Series of the International Cinema Technology Association, Universal City, 1999

"*Resolution Study of the Required Digital Cinema Resolution Required to Compete with Film Image Quality*", Harry Mathias, The Fifth Annual Seminar Series of the International Cinema Technology Association, Universal City, 1999

"*Final Report and Analysis of the Lens Distortion and Screen Geometry Study - A Joint Project*, Designed by Harry Mathias, and Supported by Kodak, THX-Lucasfilm, Dolby, Harkness-Hall Research, Schneider Optics, UltraStereo, and Paramount Studios", Harry Mathias, Cine Asia, Hong Kong, China, December 1998

"*Final Report and Analysis of the Lens Distortion and Screen Geometry Study - A Joint Project*, Designed by Harry Mathias, and Supported by Kodak, THX-Lucasfilm, Dolby, Harkness-Hall Research, Schneider Optics, UltraStereo, and Paramount Studios", Harry Mathias, International Cinema Technology Association Annual Convention Conference, Vancouver, Canada, August 1998

"*Final Report and Analysis of the Lens Distortion and Screen Geometry Study - A Joint Project*, Designed by Harry Mathias, and Supported by Kodak, THX-Lucasfilm, Dolby, Harkness-Hall Research, Schneider Optics, UltraStereo, and Paramount Studios", Harry Mathias, Cinema Expo, Amsterdam 1998

"*Final Report and Analysis of the Lens Distortion and Screen Geometry Study - A Joint Project*, Designed by Harry Mathias, and Supported by Kodak, THX-Lucasfilm, Dolby, Harkness-Hall Research, Schneider Optics, UltraStereo, and

Paramount Studios, Harry Mathias, The Fourth Annual Seminar Series of the International Cinema Technology Association, Universal City, January 1998

"*The Current Status of HDTV Cameras, and Future Predictions for Electronic Cinema Production*" Harry Mathias, The Film Festival of Norway, Grimstad, Norway, June 1988

Please note: Unless noted otherwise, all lectures were invited presentations. Many of these lectures were also published. I have not listed panel member appearances, I only listed panels that I moderated.

- I also produced, wrote, and presented a series of video technical classes to the executive and technical management at **Kodak** offices all over the world. These presentations were at the direction of, and carried the endorsement of, the Eastman Kodak Senior Management Committee.
- I planned and taught 5 years of national and international lecture tours on filmmaking techniques, Digital Cinema, and New Production Technologies, also served as the principal lecturer and organizer of this fifteen-city annual tour. Conducted by **Tech Seminars Inc.** and sponsored by **Panavision** this series of Lectures was given from 1981-1985 nationally and Internationally

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Film and Digital Productions

Feature Films (partial list)

Director of Photography

ONE MORE SHOT, WEB Productions, Jeffrey Butschher, Greg Zekowski, Producer; Robert McNamara, Director: Starring: Wayne Eric Boyd, Danny Hodges, John Smith.

UNBECOMING AGE, Ringelvision Productions, Alfredo Ringel & Debra Ringel, Producers, Directors; Starring: Diane Salinger, John Calvin, Wallace Shawn.

THE GRAND TOUR, Wildstreet Productions for Paramount Studios, John O'Conner, Producer; David Twohy, Director: Starring: Jeff Daniels, Ariana Richards, Jim Haynie.

BEVERLY HILLS BRATS, Taurus Releasing, Moore/Rivers Prod., Producers; Demitri Sotirakis, Director; Starring: Martin Sheen, Burt Young, Peter Billingsley.

MY CHAUFFEUR, Crown International Pictures, Michael Bennet, Steve Wolfe, Producers; David Beaird, Director; Starring: E.G. Marshal, Howard Hessman, Deborah Foreman**.**

CREATURE, TransWorld Entertainment, Bill Malone, Bill Dunn, Producers; Bill Malone, Director; Starring, Klaus Kinsky.

WHITE BIRD, Gemini Prod. Albert Smith, Producer; Miles Rubin, Director.

SOLLY'S DINER, Harry Mathias, Larry Hankin, Producers **ACADEMY AWARD NOMINEE 1980.**

Second Unit Director of Photography

THE RIGHT STUFF, The Ladd Co. for Warner Bros. Studios, Winkler, Chartoff, Producers; Phillip Kaufman, Director; Starring: Sam Sheppard, Barbara Hershey, Jeff Goldblum, Dennis Quaid.

OFFICER AND A GENTLEMAN, Paramount, Taylor Hackford, Director; Starring: Richard Gere, Deborah Winger.

ANNIE, Columbia Studios, Ray Stark, Producer; John Huston, Director; Starring: Albert Finney, Tim Curry, Carol Burnett, Anne Reinking.

ONE FROM THE HEART, Zoetrope Studios, Francis Ford Coppola, Director; Starring: Frederick Forrest, Terry Garr, Natasha Kinsky, Raul Julia.

BLUE THUNDER, Warner Bros. Studios, John Badham, Director; Starring: Roy Scheider.

THE OUTSIDERS, Zoetrope Studios, Francis Ford Coppola, Director; Starring: Tom Cruise, Rob Lowe, Matt Dillon, Patrick Swayze.

MAN, WOMAN AND CHILD, Gaylord Prod., Dick Richards, Director; Starring: Martin Sheen.

WHITE DOG, Paramount Studios, Samuel Fuller, Director; Starring: Christy McNichols, Burl Ives.

LOOKING TO GET OUT, Lorimar, Hal Ashby, Director; Starring: Jon Voight, Burt Young.

AIRPLANE, Paramount Studios, Jim Abrahms, David & Jerry Zucker, Directors; Starring: Leslie Nielson, Robert Stack.

ESCAPE FROM ALCATRAZ, Paramount Studios, Don Siegel, Director; Starring: Clint Eastwood.

Television Movies

Director of Photography

SOMEONE ELSE'S CHILD (TV MOVIE), ABC, de Passe Entertainment; George W. Perkins, Laura Davis, Producers; John Power, Director; Starring: Lisa Hartman Black, Louise Fletcher, Don Davis, Bruce Davison, Whip Hubley, and Glynn Turman.

FATAL VOWS (TV MOVIE), CBS, Republic Pictures, Karen Danaher-Dorr, Tim and Danielle Hill, Producers; John Power, Director; Starring: John Stamos, Cynthia Gibb, and Ben Gazzara.

BETRAYED BY LOVE (TV MOVIE), ABC, Mitch Engel for Edgar J. Scherick Assoc. Productions, John Power, Director; Starring: Patricia Arquette, Mare Winningham, Steven Weber.

DREAM DATE (TV MOVIE), NBC, Gary Hoffman & Neal Israel Productions, Anson Williams, Director; Starring: Clifton Davis, Ann Marie Johnson, Tempest Bledsoe, Kadem Hardison.

YOUR MOTHER WEARS COMBAT BOOTS (TV MOVIE), NBC, Kushner, Locke Prods.; Jonathan Debin, Producer; Anson Williams, Director; Starring: Barbara Eden, Hector Alesondro.

BIGFOOT (DISNEY SUNDAY MOVIE), Disney Studios, Michael McLean, Producer; Danny Huston, Director, Starring: Colleen Dewhurst.

TIMESTALKERS (TV MOVIE), Fries Entertainment for CBS.; Richard Maynard, Producer; Michael Schultz, Director; Starring: William Devane, Lauren Hutton, Klaus Kinski.

SHANNON (PILOT), Universal, Walter Grumman, Director.

BETWEEN THE LINES (PILOT), Time-Life TV, Jay Sandrich, Director.

COMMERCIAL, **MUSIC VIDEO**, and **DOCUMENTARY CREDITS** are available on request. All these productions were also directed by me.

Awards

Oscar Nomination 1980 Motion Picture Academy of Arts and Sciences for ***Solly's Diner,*** Harry Mathias, Larry Hankin, Producers; Harry Mathias Director of Photography, Editor.

San Francisco Invitational Film Festival First Place for ***Washington Square***, Harry Mathias, Director, Director of Photography, Editor

Filmex Award 1981 at the Los Angeles Film Expo ***Solly's Diner,*** Harry Mathias, Larry Hankin Producers, Director of Photography, Editor.

The Allen Award 2005 "Presented Annually for Exemplary Service to the ICTA" by the International Cinema Technology Association
The Allen Award 2007 "Presented Annually for Exemplary Service to the ICTA" by the International Cinema Technology Association

The Cine Golden Eagle Award 1991 for Best Documentary, ***Shadow Children***, a documentary about homeless teenagers on the streets in Berkeley, Harry Mathias, Director; Peregrine Productions - Palo Alto, CA

Industry Experience

Panorama Labs
New York City
Vice President of Research & Development, Digital Cinema at Panorama Labs
(Consulting for them as a client of my company, DCMP Consulting Inc.)
June 2005 to December 2007
Achievements: Designed, developed, and built, with an international team of scientists and researchers, the 1st working Magneto-Photonic Digital Cinema imager. Produced the design and refined a strategy to engineer a "fab-less" manufacturing plan to produce the commercial product.

Responsible for: Led multiple design and research teams. Served as the Digital Cinema technology resource for the scientists in multiple research disciplines. Led a team of specialty consultants during construction of the prototype. Also wrote all project budgets and maintained all Gantt charts used for project landmark tracking.

DCMP Consulting Inc.

Los Angeles, USA

CEO, CTO

June 2005 to Present

Achievements: Founded and managed a boutique consulting company; to design new equipment, research, technology and marketing within the digital cinema and motion picture industry, as well as conduct M&A due diligence/strategy for venture capitalists. DCMP Consulting, Inc. is the only Digital Cinema consultancy with expertise in both Digital Cinema and Motion Picture technology. They are unique in that their expertise and experience covers equipment design, and technology development, and launch strategies. Recent projects include creating a 4K resolution D-Cine projector utilizing Nano Magneto-Photonic imaging technology and 4K Media Server designs for our current major clients, as well as planning market development strategies. We are regularly tasked by Wall Street Investment Bankers and Silicon Valley VC's to provide research and due diligence prior to technology company mergers and acquisitions.

Clients include: Dolby, Tektronix, The European Union, Panavision, Schneider Optics, Panorama Labs, BroadMotion, DreamWorks Animation, ARRI Camera Group, Photo Research, Photonica, Elevation Partners, MasterImage 3D, Inc, Adlabs-Reliance Media (India), Eastman Kodak and numerous confidential clients.

Responsible for: All corporate strategy and management, marketing, design & engineering management.

NEC Digital Cinema Division

Los Angeles, USA

Director of Digital Cinema Technology

May 2003 to May 2006

Achievements: I co-founded, and as Co-Director, I ran NEC's startup Digital Cinema division, and guided its business strategy, I was also was the highest technical authority in this startup division. I spearheaded NEC's entrance into four new markets. I designed the system architecture and led the team that developed the world's first Digital Cinema operating software system. Arranged and managed the takeover of the DLP Cinema Projection Business from Digital Projection Inc. and integrated that cinema projection business into NEC. I designed the hardware, and arranged the software partnership Integration to allow NEC to provide the most practical and only Web-Enabled advertising system to the cinema industry. I planned and executed the training of NEC's 3000 existing service engineers to form them into a new Digital Cinema servicing unit.

Responsible for: Managing all Digital Cinema technical operations for NEC worldwide. Doing all planning, budgeting, and execution of planned strategies. I designed systems that were granted 4 patents worldwide.

Barco Digital Cinema

Los Angeles, USA

Director of Digital Cinema, America

2000 to 2003

Achievements: I founded and ran Barco Digital Cinema in North America, from before the first DLP Cinema prototype system until the 2K resolution systems that are currently in use. This was a management, a technical, as well as a strategic marketing position. I was the top executive in D-Cinema in the USA. I was responsibile for all of the corporate, strategic, and marketing decisions in the areas of cinema and Digital Cinema for this independent North American business unit of Barco, a multinational high technology company.

Responsible for: I was responsible for executive leadership of his team in creating industry alliances, and managing the dealer network which I set up. I was responsible for the strategic marketing and engineering support of DLP Cinema projectors and allied technologies. I guided Barco's strategy from before their very first prototype, to their current strong-second position, exceeding companies expected sales level by 150% in 2002. My design, engineering input and critical evaluation was required on all new Digital Cinema product development. I also served as Barco's foremost US projector training authority.

Schneider Optics Inc

Los Angeles, USA

Director of Motion Picture Technology (world-wide), and Head of West Coast Operations

1996 - 2000

Achievements: Schneider Optics Inc., is a world leader in lens design and manufacture for 84 years, under my direction they made a successful expansion into the professional Motion Picture camera filter market. I was responsibilities for three divisions: cinema lenses, Digital Cinema market development, and motion picture camera filters. I participated in all of Schneider's top management decisions and planning for Digital Cinema product development. I spearheading and coordinating confidential joint developments with the Texas Instruments DLP technology, and the Hughes/JVC ILA and DILA image display chips, and Silicon Light Machine's GLV Laser System.

Responsible for: In all of their product groups, my involvement was in four major areas: long term strategic planning, product development, quality control evaluation standards, and marketing. I sat on the management committee that set Schneider's lens development choices and priorities, worldwide. I personally ran all of Schneider's training worldwide.

Panavision Inc.

Los Angeles, USA

The Senior Consultant to four of the six C.E.O.'s of Panavision

1981 - 1999

Achievements: I held this position through four successive CEO's administrations. I contributed designs to all cameras since the Panaflex Gold, and countless accessories. I contributed to many of the patents granted on these products. I designed the Anti-reflecting Filter Frame and saw it through to production. This product is used by 99% of Panavision customers now. I was granted US Patent # 5,359,380 as the sole inventor of this product. I evaluated many new technologies and countless patents offered to Panavision, and mapped a coherent course through the maze of constant technical innovation, and charting new directions when appropriate. I also researched and produced plans of action for

the specification and development of confidential and proprietary new product lines for the company. I self-initiated many subjects of study and action that became official company projects after their importance was sufficiently proven to top management.

Responsible for: My role at Panavision was totally self-directed for 18 years, giving me the opportunity to explore strategies and unique directions unrestrained by corporate reporting hierarchy. This allowed me to be an agent of change the company. One Panavision CEO called me the company's "Minister of Truth", because he knew that he would always hear honest answers from me.

DreamWorks Animation SKG

Los Angeles, USA

Consultant

1995-1998

Achievements: I was recruited by DreamWorks to consult for them in connection with the production of the feature length computer animation film ***Prince of Egypt*** and their next film ***Road to El Dorado***. They wanted the films to look like classic live-action epic motion pictures, not “cartoons”. My combined knowledge of motion picture lighting and photography and computer imaging technology, gave me alone the qualifications for this project.

Responsible for: Preparing and conducting a series of training classes for the entire DreamWorks Animation Creative team in epic motion picture production visual and lighting techniques, and newly developed methods to achieve that same look using computer imaging technology.

Data Engineering Inc.

Los Angeles, USA

President, C.E.O.

1989-1998

Achievements: Developed and implemented OS/2, Unix, Lotus Notes, and Widows Server based new technology solutions for diverse Cinema clients. Through the application of computer hardware R&D and new software methods we designed and produced many new products for production and studio clients. Data Engineering was an IBM and Hewlett Packard strategic applications partner.

The European Union

Brussels, Belgium

Consultant

1986-1988

Achievements: Researched and produced a confidential study report on the subject of High Definition Video technology that became the basis for the European Economic Community’s position on HDTV and Digital Cinema. This work formed the basis for the EU strategy on these subjects. I was the only American consultant to the European Union on

the subject of High Definition Television & future Video Production Technology. I presented my study in person and conferred many times with the Ministers of the European Community.

The Eastman Kodak Co.
Rochester, USA
Consultant
1982-1984
Achievements: Presented a unique overview of the changing technology marketplace to the Eastman Kodak Executive Committee and upper management at the Rochester, N.Y. headquarters.

Location Video Services, Inc.
San Francisco, USA
Founder, V.P. of the Board, C.O.O.
1972-1980

Achievements: Started the world's first minicam based video production company. I designed and built all of its pioneering equipment. Produced projects, worldwide, with the first minicam video camera system to be used in quality field production situations. During its use on the television commercials of the George McGovern Presidential Election campaign in 1972, the New York Times headlined the Mathias-designed system as a "A Major New Political Weapon"

Research, and Patents

I always have been an innovator, working hard to develop skills at recognizing new design opportunities and embracing new technologies for visual imaging applications. During my 18 years at Panavision I led or worked on thousands of development projects.

Some specific projects of all his research projects were:

- I led Development of the 1st magneto-photonic 4K resolution projector with applications in digital cinema, military and Space Technology.

- I designed the Digital Cinema industry's first **Multiplex-wide Theatre Management System (TMS)** including screen server, network architecture, and central content server. This system allows operation and management control from anywhere within the multiplex, or from outside. Design of the system began in 2003. Utilizing a "distributed intelligence" design concept makes error reporting, troubleshooting, and system management simple

and fast, for local technicians or remote support sites, without compromising content security. This product was introduced to the Cinema Industry on October 12, 2004, well before any other such systems existed.

- Fully DCI Spec. compliant, the TMS software system was written in JAVA for LINUX or Windows systems, and utilized a Fault Tolerant server. This project was my original idea. Since it was Fiber Channel based, this pioneering Digital Cinema server and central library system, allowed content to be moved between theatre screens faster then any other method. Individual Screen server hard drives are Shadowed by the Fiber Channel SAN disks for instantaneous failover in the event of a screen server disk failure.

- I organized and ran a study of ***Screen Geometry, Illumination, and Image Quality Requirements for Modern Stadium Theatres*** with the cooperation of seven other companies. I wrote and gave the resulting paper of findings in conferences around the world. Since then, the test findings have changed industry standards, and were adopted by the THX division of LucasFilm for its theatre certification program.

- I was the Chief Software Architect and project leader on the development of the new Schneider **Theatre Design Pro Software**. This windows program enables theatre designers and architects to interactively develop a theatre complex with the highest performance characteristics and the finest image quality. It has become the Industry standard design program.

- I co-developed with Lucasfilm THX a totally unique **Image Calibration Test Film** that was released with each print of Star Wars Episode I.

- I also designed **The Film Lens Alignment Gauge**, to solve the problem of measuring and correcting lenses, which are distorting because they are not orthogonal to the image plane. This has become an industry standard tool and a successful unique product for Schneider Optics.

- While at Schneider Optics, my responsibilities include spearheading a confidential joint development with Texas Instruments on the DLP Cinema chip, and the Hughes/JVC ILA and DILA image display chips, and Silicon Light Machine's GLV Laser System.

- I researched, for Panavision, the subjects of film and video gamma and dynamic range characteristics needed for Digital Cinema Production Equipment.

- Formulated Panavision's Digital Cinema production equipment strategies and represented Panavision on generations of HDTV and Digital Cinema standards setting groups.

- Did extensive research work on lens sharpness and format resolution evaluation to allow Panavision and Eastman Kodak to make informed decisions about their joint strategy for future directions in these areas.

- Working for client Adlabs of India, I designed and planned a 1000 screen Digital Cinema national network rollout. This system includes an end-to-end architecture design, from mastering and encoding systems, to satellite distribution and exhibition. It will also include a security encryption key distribution system.

In addition to those mentioned above, some of the companies that I have designed other equipment for are:

- **NEC Digital Cinema**
- **THX**
- **Schneider Optics**
- **Panavision Inc.**
- **ARRI Cameras**
- **Cinema Products Inc.**
- **Photo Research Inc.**
- **Paramount Studios**

Patent List

- I was the sole inventor of two of my five patents, and I was the key inventor, who led the development team on three more. Four of these patents are for a Digital Cinema Server system, theatre operating software (TMS), and the overall system architecture. They are:

    - **LAN OR WAN REMOTE ACCESS AND MANAGEMENT OF DIGITAL CINEMA SCREEN SERVERS [Granted: US Patent No. 8281344]**
      Inventor: Harry M. Mathias of Thousand Oaks, California 91362

    - **VERY HIGH SPEED, MULTIPLE PATH FAILOVER SYSTEM FOR CONTINUING DIGITAL CINEMA PROJECTION CONTENT AVAILABILITY [Granted: US Patent No. 8768138 on July 1st 2014]**
      Inventors: Gary E. Bates of Marlborough, Massachusetts 01752
      William R. Main, Jr. of Marblehead, Massachusetts 01945
      Harry M. Mathias of Thousand Oaks, California 91362

    - **SYSTEM AND METHOD FOR REMOTE MANAGEMENT AND MONITORING OF MULTIPLEX THEATER DIGITAL CINEMA OPERATIONS [Pending]**
      Inventors: Harry M. Mathias of Thousand Oaks, California 91362
      Gary E. Bates of Marlborough, Massachusetts 01752
      Vinayak Sapre of Columbus, Ohio 43220

- **HIGH SPEED TRANSFER OF MOVIE FILES AND OTHER CONTENT BETWEEN SHARED STORAGE AND SCREEN SERVERS TO ENHANCE CONTENT AVAILABILITY IN A DIGITAL CINEMA SYSTEM [Pending]**

  Inventors: Harry M. Mathias of Thousand Oaks, California 91362
  Gary E. Bates of Marlborough, Massachusetts 01752
  William R. Main, Jr. of Marblehead, Massachusetts 01945
  Vinayak Sapre of Columbus, Ohio 43220

  ANTI-REFLECTION FILTER SUPPORT SYSTEM [Granted: US Patent No. 5359380]

  Inventor: Harry M. Mathias of Thousand Oaks, California 91362

- I designed the Anti-reflecting Filter Frame and saw it through to a production model, that has a 98% utilization on major feature films and produced a new source of revenue for Panavision. I was the sole inventor of this Optical Device that was granted United States Patent # 5359380.

- Contributed to the many Patents granted on the Panaflex and PanaCam family of products.

- Evaluated many new technologies and countless patents offered to Panavision, and mapped a coherent course through the maze of constant technical innovation, and charting new directions when appropriate.

- Studied and produced plans of action for the specification and development of many confidential proprietary new product lines for Panavision.

Standards Committees and Professional Organizations

I have been a long-term member of the SMPTE (the Society of Motion Picture and Television Engineers) and held committee Chair and voting membership positions on the following committees: HDTV Electronic production standards, (Chairman of the Adhoc Film Quantization Committee); the 30-Frame Film Study Group (Chairman of the Camera Committee). I am a founding member of SMPTE DC-28 Digital Cinema Standards (all Study Groups, and Committees). I am also a founding member of SMPTE 21DC (the successor to DC-28) I am also an active member of the BKSTS, now The International Moving Image Society (the UK equivalent of SMPTE). I have been elected to the rank of **Life Fellow** of the Society of Motion Picture and Television Engineers (SMPTE) for my contributions to setting global Digital Cinema Standards.

I am also an active member of SID (Society for Information Display), ICTA (the International Cinema Technology Association), the ISDCF (the Inter-Society Digital Cinema Forum), ASC Technology Committee (The American Society of Cinematographers), and the Image Interchange Framework project of the Science and Technology Council at the Academy of Motion Picture Arts and Sciences.

I was twice elected as a Board of Directors member of the International Cinema Technology Association.

I was a technical advisor to DCI (Digital Cinema Initiatives) the technical consortium of the Seven Major Movie Studios that was formed to produce a ***User Requirements Specification Document for Digital Cinema*** commonly called the "***DCI Spec.***" in the global film imaging community.