



Résumé of
WILLIAM T. C. NEALE, M.Arch.

Kineticcorp™

6070 Greenwood Plaza Blvd., Suite 200
Greenwood Village, Colorado 80111
Tel: 303.733.1888
Fax: 303.733.1902
wneale@kineticcorp.com

EXPERIENCE:

Vice President, Director of Visualization, Kineticcorp, LLC, Colorado, 2005 to Present
Director of Animation, Knott Laboratory, Inc., Colorado, 2000 to 2005
Chairman of the Animation Committee at the SAE International Congress, Present
Adjunct Instructor, Art Institute of Colorado, Denver, CO, 2001 to 2005
Visiting Lecturer, Dept. of Engineering and Applied Sciences at the University of Colorado at Denver, July 2009
Certified Motorcycle Instructor by the Motorcycle Safety Foundation (MSF) of America 2010
Visiting Lecturer, Dept. of Bioengineering, Wayne State University, Detroit, MI, 2009-2011

EDUCATION:

Master of Architecture, Washington University, School of Architecture, 2000 (With Honors)
B.A. Architecture, Washington University, School of Architecture, 1994
Traffic Accident Reconstruction 1 - Northwestern University Center for Public Safety, October 2011
Human Factors Engineering, University of Michigan College of Engineering, July 2008
Vehicle Dynamics, Northwestern University Center for Public Safety, April 2007

AWARDS:

Arch T. Colwell Merit Award, Society of Automotive Engineers (SAE), 2006
Newman Award for Acoustic Excellence (First Place Award), 2000
Pratt Institute Competition "Artificial Islands," design exhibited in Gallery, 1999
Graduate Scholarship, Washington University, 1999
Graduate Scholarship, Rice University, 1998
Van Allen Institute Competition "Pier 54," Top 50 Design, exhibited in Gallery, 1997
Olin Cup Finalist, Washington University, 1993

FORENSIC ENGINEERING AND VISUALIZATION: Mr. Neale has investigated and analyzed over one thousand accidents specializing in the areas of computer simulation, animation, photogrammetry, video analysis, lighting, visibility and acoustics. During his undergraduate and graduate program, Mr. Neale specialized in lighting and visualization, including photography, videography, and computer modeling and animation. Since 2000, Mr. Neale has continued development in these areas and gained additional experience in area of forensic engineering including:

- He has performed hundreds of daytime and nighttime visibility analyses on accidents involving tractor-trailer, motorcycles and passenger cars.
- He has qualified as an expert in federal and state court in the areas of motion tracking, video analysis, computer modeling and animation, computer lighting, visibility, scene investigation and photogrammetry.
- Ford Motor Company funded Mr. Neale's research to develop video analysis and motion tracking techniques for vehicle rollover crash test analysis.
- Mr. Neale has published peer reviewed technical papers on photogrammetry, video analysis, motion tracking, and lighting and visibility. He has also lectured on these topics at several institutions including: Wayne State University in Detroit, MI and The University of Colorado Dept. of Engineering in Denver, CO.
- Mr. Neale's produced the animations for the Princess Diana vehicle crash which have been featured on the Discovery Channel's "Unsolved History: The Death of Diana." Other animation work has appeared on ABC's 20/20 and on the local Denver News Channels.

RESEARCH AND TEACHING: In the course of his professional work, Mr. Neale has taught and researched in these areas:

- Mr. Neale has ongoing research in visibility and vehicle illumination and presented at the 2009 and 2010 SAE Annual Congress on new techniques in visibility and headlamp simulation.
- His work in simulation and visualization has been featured at the William Van Allen Institute in New York, the Pratt Institute in New York City, "Animation World Magazine," "Visual Illustrator," and on national television.
- Mr. Neale has taught university level courses in Architecture Engineering and Advanced Animation at the Art Institute of Colorado, and has guest lectured at Wayne State University in Detroit, MI and The University of Colorado Dept. of Engineering in Denver, CO.

William T. C. Neale, M.Arch.
Vice President, Director of Visualization

Kineticorp™

www.kineticorp.com

6070 Greenwood Plaza Blvd., Suite 200
Greenwood Village, Colorado 80111
Tel: 303.733.1888
Fax: 303.733.1902

PROFESSIONAL AFFILIATIONS: Society of Forensic Engineers and Scientists (SFES), Society of Automotive Engineers (SAE) - Chairman of the Animation Committee in Accident Reconstruction and Member of the Roadway Illumination Devices Committee; National Association of Safety Professionals; Acoustical Society of America Member; IEEE Member of the Computer Society on Visualization; IESNA Illuminating Engineering Society.

Funded and Supported Research

1. "Analysis of the vehicle accelerometer data of the Drive Cam Event Triggered Video System" - DriveCam - The Driver Science Company™
2. "A Method to Quantify Vehicle Dynamics and Deformation for Vehicle Rollover Tests Using Camera-Matching Video Analysis," funded in part by **Ford Motor Company**, 2007.
3. "Image Analysis of Rollover Crash Test Using Photogrammetry," funded in part by **Ford Motor Company**, 2005-2006.

Technical Publications

1. **Neale, William T.C.**, David Hessel, Toby Terpstra, "Photogrammetric Measurement Error Associated with Lens Distortion." SAE Paper 2011-01-028611B-0043. Detroit, MI. (2011).
2. **Neale, William T.C.**, David Hessel, James P. Marr, "Evaluation of Photometric Data Files for Use in Headlamp Light Distribution." SAE Paper 2010-01-0292. Detroit, MI. (2010).
3. **Neale, William T.C.**, Toby Terpstra, "Comparison of Sound Pressure Levels of Mid-to-Large Size On-Road Motorcycles Through Volume Modeling." *The Journal of the Acoustical Society of America* 126:4 (Oct. 2009): 5aNS7.
4. **Neale, William T.C.**, David Hessel, "Simulating Headlamp Illumination Using Photometric Light Clusters." SAE Paper 2009-01-0110. Detroit, MI. (2009).
5. **Neale, William T.C.**, Toby Terpstra, William M. Bortles, "Evaluation of Discrete Vehicle Accident Sounds for use in Accident Reconstruction." *Proceedings of Meetings on Acoustics* Vol.5 (2008).
6. **Neale, William T.C.**, Toby Terpstra, William M. Bortles, "Analysis of Commonly Witnessed Vehicle Accident Sounds *in situ*." *The Journal of the Acoustical Society of America* 124:4 (Oct. 2008): 5aNS5.
7. Rose, Nathan A., **William T.C. Neale**, Stephen J. Fenton, David Hessel, R.W. McCoy, C.C. Chou, "A Method to Quantify Vehicle Dynamics and Deformation for Vehicle Rollover Tests Using Camera-Matching Video Analysis." SAE Paper 2008-01-0350. Warrendale, PA. (2008).
8. **Neale, William T.C.**, Toby Terpstra, "Methodology for Physics-Based Sound Composition in Forensic Visualization." *Proceedings of Meetings on Acoustics* Vol.1 (2007).
9. **Neale, William T.C.**, Toby Terpstra, "Methodology for Reconstruction of Vehicle Accident Acoustics for use in Forensic Visualization." *The Journal of the Acoustical Society of America* 121:5 (May 2007): 3pAA8.
10. Chou, C., R.W. McCoy, Stephen J. Fenton, **William T.C. Neale**, Nathan Rose, "Image Analysis of Rollover Crash Test Using Photogrammetry." SAE Paper 2006-01-0723. (2006).
11. **Neale, William T.C.**, Undergraduate Curriculum for Forensic Animation for the Art Institute of Colorado.

12. **Neale, William T.C.**, Stephen J. Fenton, S. McFadden, Nathan Rose, "A Video Tracking Photogrammetry Technique to Survey Roadways for Accident Reconstruction." SAE Paper 2004-01-1221. Warrendale, PA. (2004).
13. Fenton, Stephen J., **William T.C. Neale**, N. Arvin, R.M.N. Palmer, "Laying the Foundation for an Automotive Product Liability Case Using Photogrammetry." Association of Trial Lawyers of America. Washington, D.C. (2003).
14. **Neale, William T.C.**, "Computer Visualization Section," contributed content. *Illustreret Videnskab (Visual Illustrator)* 2:2003 (Feb. 2003).
15. **Neale, William T.C.**, Contributed Content. *Animation World Magazine* (Jan. 2002).
16. Fenton, Stephen J., **William T.C. Neale**, Nathan Rose, C. Hughes, "Determining Crash Data Using Camera-Matching Photogrammetric Technique." SAE Paper 2001-01-3313. Warrendale, PA. (2001).

Other Articles

1. **Neale, William T.C.**, "Putting the Jury in the Driver's Seat", DriveCam Online News and Events – Legal Section, January, 2012.
2. **Neale, William T.C.**, "Photogrammetry Techniques in Accident Reconstruction", DriveCam Online News and Events – Legal Section, September, 2011.
3. **Neale, William T.C.**, "The Power of Physical Evidence in Accident Reconstruction", DriveCam Online News and Events – Legal Section, August, 2011.

Invited Lectures

1. "Perception, Reaction and Visualization in Motorcycle Operation.", Society of Forensic Engineers & Scientists, Kuaia, Hawaii, January 2012
2. "Motorcycle Training Effectiveness." Society of Forensic Engineers & Scientists, Nevada City, CA. July 2011.
3. "Computer Visualization in Accident and Injury Analysis." Wayne State University, Detroit, MI. April 2011.
4. "Photogrammetric Measurement Error Associated with Lens Distortion." Society of Automotive Engineers, Detroit, MI. 2011.
5. "Psychophysically Validated 3D Mapping in Computer Generated Visualization." Society of Forensic Engineers and Scientists, Berkeley, CA. Feb. 2011.
6. "Computer Visualization in the Courtroom." Williams Montgomery & John, Ltd., Chicago, IL. July 2010.
7. "Accident Reconstruction and Visualization." Wayne State University, School of Bioengineering, Detroit, MI. April 2010.
8. "Evaluation of Photometric Data Files for Use in Headlamp Light Distribution." SAE World Congress, Detroit, MI. 2010.
9. "Visualization and Visibility in Accident Reconstruction." Washington State Department of Transportation. Oct. 2009.
10. University of Colorado at Denver. Guest Lecturer in Accident Reconstruction. July 2009.
11. "Art Institute Portfolio Review." Graduating Class, Convention Center, Denver, CO. June 2009.
12. "Simulating Headlamp Illumination Using Photometric Light Clusters." SAE World Congress, Detroit, MI. 2009.
13. "Topics in Noise – Active Noise, Product Noise, and Community Noise." Acoustical Society of America 156th Annual Conference, Miami, FL. 2008.
14. "A Method to Qualify Vehicle Dynamics and Deformation for Vehicle Rollover Tests Using Camera-Matching Video Analysis." SAE Technical Paper Presentation, SAE World Congress. 2008.
15. "Use of Animation in Automotive Product Liability Cases." DRI 2008 Product Liability Conference, Phoenix, AZ. 2008.
16. "Topics in Architectural Acoustics: Acoustics in Rooms, Ducts, and Forensics." Acoustical Society of America 153rd Annual Conference, Salt Lake City, UT. 2007.
17. "The Art of Forensic Visualization." Art Institute of Colorado, Media Arts and Animation Dept., Denver, CO. 2003.

18. "Computer Modeling and Animation in Litigation." Presenter, Gorsuch and Kirgis, Denver, CO. 2002.

19. Art Institute Portfolio Review, Graduating Class, Convention Center, Denver, CO. June 2002.

Technical Conferences and Seminars

1. "Animal Crashes Implications for Headlights." University of Michigan Transportation Research Institute. April 2010.

2. "Automotive Lighting: Design and Technology." SAE World Congress. April 2009.

3. "Computer Aided Exterior Lighting Design." Illuminating Engineering Society of North America. Oct. 2008.

4. "Automotive Lighting: LED Applications." SAE International. April 2008.

5. "VBox Product Training." VBOX USA. April 2008.

6. Human Factors Course. University of Michigan College of Engineering. July 2008.

7. Fitzhorn, Patrick. "Tire Mechanics & Modeling." Colorado State University. March 2008.

8. Vehicle Dynamics Course. Northwestern University Center for Public Safety. April 2007.

9. "Architectural Acoustics: Acoustics in Rooms, Ducts and Forensics." Acoustical Society of America 153rd Annual Conference, Salt Lake City, UT. 2007.

10. "Accident Investigation." National Association of Safety Professionals. Nov. 2005.

11. "Computer Simulation Realism in Animation and Dynamic Motion." SIGGRAPH, Los Angeles, CA. 2004.

12. "Computer Simulation and Dynamic Motion." SIGGRAPH, San Diego, CA. 2003.

13. Field Investigation and Inspection Surveying. New York, NY. 1997.

Motorcycle Testing and Training

1. Deceleration Testing for the **2006 Honda CBR 1000RR** Racing Bike, Denver CO. October 2011

2. Daytime Visibility Testing for the **2006 Honda CBR 1000RR** Racing Bike, Tracy, CA. September 2011.

3. Nighttime Visibility Testing for the **2006 Honda CBR 1000RR** Racing Bike, Aurora Airstrip. Denver, CO. June 2011.

4. Highway Handling Testing for the **2006 Honda CBR 1000RR** Racing Bike. Ontario, CA. June 2011.

5. Nighttime Visibility Headlamp testing for the **2006 Harley Davidson FXST** (Softail), Oroville CA, June, 2011

6. Level 1 Motorcycle Accident Scene Management. Center for Transportation Safety, Commerce City, CO. Jan. 2011.

7. Daytime Visibility and Handling for the **1993 Harley Davidson Fatboy**, Horton Alabama. January, 2010

8. MSF Rider Coach Training Program. Spring 2010.

9. Daytime Visibility and Handling Testing of a **2007 Kawasaki ZX600**. Tulsa, OK. 16 March 2010.

10. Deceleration and Engine Brake Testing for the **2006 Suzuki SV650**. VBox Data Collection of Acceleration, Centennial, CO. Sept. 2009.

11. Deceleration and Engine Brake Testing for the **2006 Yamaha YZF-R1**. VBox Data Collection of Acceleration, Arvada, CO. June 2009.

12. Vehicle Noise Testing of the **2007 Triumph Americana** Motorcycles, Denver, CO. Summer 2009.

13. Total Control Advanced Rider's Course. T3RG Motorcycle School, Aurora, CO. June 2009.

14. Daytime Visibility Testing for the **2007 Honda CBR 1000** Sport Bike. Santa Barbara, CA. 8-9 June 2009.

15. Nighttime Visibility Testing for **1998 Yamaha VMax** Headlamps. California Department of Transportation, Monterey, CA. August 2008.
16. Transient Braking on Different Friction Surfaces for **2006 Triumph Bonneville** Motorcycles using VC3000 Data Collector. Bandimer Speedway, Morrison, CO. October 2007.
17. Locked Rear Wheel Braking Distance for **2004 Harley Davidson "Fat Boy"** Motorcycles using VC3000 Data Collector. California Department of Transportation, Hesperia, CA. October 2007.
18. Vbox Data Collection of Dynamic Braking and Deceleration of **Harley Davidson "Fat Boy"** Motorcycles. Denver, CO. September 2007.
19. Harley-Davidson's Rider's Edge Rider Course. Motorcycle Safety Foundation, Harley Davidson Academy of Motorcycling, Littleton, CO. May 2007.