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DANIEL H. KRUGER, Ph.D.
SENIOR MANAGING CONSULTANT
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Dr. Kruger is a Senior Managing Consultant at Engineering Systems Inc. (ESi) and Manager of Iowa Operations. He has 30 years of experience in computer-generated 3D animations and other graphics for engineering and scientific illustration. He has supervised litigation projects, as well as a wide range of interactive, software, and educational projects. His project experience has involved aviation, patent infringement, ground vehicle, product liability, environmental, maritime, oil and gas operations, and construction delay/defect.

Prior to joining ESi, Dr. Kruger served as President at Demonstratives, Inc. for over 10 years. While there he supervised litigation projects involving the design and manufacture of automotive and aerospace components, ground water, air contamination and maritime simulation models, accident reconstructions utilizing vehicle and occupant motion simulation software, performance of medical devices and implants, and hydroelectric, coal-fired, and nuclear power generation. Dr. Kruger also managed maintenance and development of their proprietary animation and simulation software tools.

Areas of Specialization

Animation

Engineering and Scientific Visualization

Demonstrative Aids and Exhibits

Education

Ph.D., Aerospace Engineering and Engineering Mechanics, Iowa State University, 1995

M.S., Aerospace Engineering and Engineering Mechanics, Iowa State University, 1992

B.S., Physics and Mathematics, Morningside College, 1989

Positions Held

Engineering Systems Inc., Ames, Iowa

Senior Managing Consultant, 2015 – Present
Manager of Iowa Operations, 2015 – Present
Senior Consultant, 2014 – 2015

Demonstratives, Inc., Ames, Iowa

President, 2004 – 2014
Vice President, 2001 – 2004

Engineering Animation, Inc., Ames, Iowa

Senior Project Manager, 1998 – 2001
Project Manager, 1995 – 1998
Dynamacist/Animator, 1994 – 1995

Iowa State University, Ames, Iowa

National Science Foundation, Research Assistant, 1992 – 1995
Naval Research Laboratory, Research Assistant, 1990 – 1992
Graduate Teaching Assistant, 1990 – 1991

Morningside College, Sioux City, Iowa

Undergraduate Laboratory Assistant, 1998 – 1989
Undergraduate Research Assistant, 1987 – 1988

Publications

“Concrete Buggy Operator Presence Control 3-Dimensional Convergence of Accident Reconstruction Technology,” D.B. Brickman, E.H. Knox, J.T. Eganhouse, **D.H. Kruger**, R.A. Brewster, T.C. Lueck, M.D. Bauer, The XXXIIIrd Annual International Occupational Ergonomics and Safety Conference Virtual Conference, September 16-17, 2021

“Videogrammetry in Vehicle Crash Reconstruction with a Moving Video Camera,” E.J. Manuel, R.A. Mink, **D.H. Kruger**, SAE Technical Paper, 2018-01-0532, 2018, doi:10.4271/2018-01-0532, April 3, 2018, Presented at SAE World Congress 2018

- "Industrial Tugger 3-Dimensional Convergence Accident Reconstruction Technology," D.B. Brickman, **D.H. Kruger**, S.P. Loomis, K.B. Zakutansky, J.S. McGillicuddy, B.A. Thibault, The XXXVIth Annual International Occupational Ergonomics and Safety Conference, Denver CO, August 5-6, 2024
- "Tanker Truck Loading Platform Fall Protection Accident Reconstruction Analysis," D.B. Brickman, E.H. Knox, **D.H. Kruger**, R.A. Brewster, J.A. Lueck, The XXIXth Annual Occupational Ergonomics and Safety Conference, Seattle WA, 2017
- "Human Factors Techniques in the Analysis of Low Illumination Accidents: Integrating Conspicuity Validated Photography and Scientific Animation," J.L. Auflick, J.K. Sprague, P. Shibata, **D.H. Kruger** Proceedings of the Human Factors and Ergonomics Society 59th Annual Meeting - 2015
- "Minimizing the Sound Power Radiated by a Cube as a Function of the Size of Constrained Layer Damping Patches," **D.H. Kruger**, J.A. Mann, J. Acoustical Society of America, 105 (3), 1999
- "Placing Constrained Layer Damping Patches Using Reactive Shearing Structural Intensity Measurements," **D.H. Kruger**, J.A. Mann, T. Wiegandt, J. Acoustical Society of America, 101 (4), 1997
- "Radiated Sound Energy of a Fluid-Loaded Cylinder as a Function of Force Time Duration and Multiple Pulse Time Spacing," **D.H. Kruger**, J.A. Mann, J. Acoustical Society of America, 96 (1), 1996
- "The Development of a Passive Protective Device for the Elderly to Prevent Hip Fractures from Accidental Falls," **D.H. Kruger**, M.S. Sellberg, J.C. Huston, Advances in Bioengineering, ASME Vol. BED-22, 1992