



CHARLES A. FOX, Ph.D.
SENIOR DIRECTOR OF TECHNOLOGY

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Dr. Fox oversees technologists providing field data collection, visualization, lab services, and facilities and artifact management across all Engineering Systems Inc. (ESi) offices. His team works with in-house consultants and ESi clients to recover and store artifacts, assist in analyzing materials in ESi laboratories, collect and visualize data, and create demonstrative aids and exhibits. Technologists at ESi assist experts in all phases of high-stakes litigation. Technologists at ESi are constantly innovating to integrate a growing variety of data capture technologies with a wide array of visualization tools to connect ESi experts and legal teams with critical concepts that flow from accurate depictions of often unseen events.

Dr. Fox leverages his 25 years of experience in the litigation industry to lead a technology team that is second-to-none. With an academic background in neuroscience, Dr. Fox provides insight into how visual teaching tools can be used most effectively to teach difficult-to-understand concepts. His scientific training informs an information convergence strategy that marries all forms of data collection with outcomes that drive decision making at the team level.

Before joining ESi, Dr. Fox served as Vice President at Demonstratives, Inc. for 14 years. At DI, he led the Life Sciences Group - a team that focused on biotechnical, pharmaceutical and biomedical litigation services. These services included production of 3D animations, 2D animations, and PowerPoint presentations. He led program development in cases involving high tech patents and trade secrets. The Life Sciences Group developed sophisticated methods for visualizing macromolecules and animating the processes behind much of today's biosciences industry.

Areas of Specialization

The Effectiveness of Visuals
3D Animations
VR Applications
Real-Time Visualization
Demonstratives Aids and Exhibits
PowerPoint Presentations
Litigation Graphics

Education

Postdoctoral Fellow, Mental Health Research Institute, University of Michigan, 1991-1995
Ph.D., Molecular Cellular and Developmental Biology, Iowa State University, 1991
B.S., Zoology, Iowa State University, 1987

January 2021

Professional Awards

National Institute of Drug Abuse

National Research Service Award, 1994 – 1995

University of Michigan

Endocrinology and Metabolism Postdoctoral Fellow, 1993 – 1994

University of Michigan

Pharmaceutical Manufacturers Association Postdoctoral Fellow, 1991 – 1993

Positions Held

Engineering Systems Inc., Ames, Iowa

Senior Director of Technology, 2021 – Present
Director, Visualization Practice Group, 2015 – Present
Senior Managing Consultant, 2015 – Present
Senior Consultant, 2014 – 2015

Demonstratives Inc., Ames, Iowa

Vice President, 2001 – 2014

Engineering Animation Inc., Ames, Iowa

Director of Biotechnical Litigation Services, 1999 – 2000
Director of Production, Interactive Division, 1997 – 1999
Project Manager, Interactive Division, 1995 – 1997

University of Michigan, Ann Arbor, Michigan

Post-Doctoral Fellow, Mental Health Research Institute, 1991 – 1995

Presentations

2020 Webinar “Data at a Distance: The Art of Remote Inspections” DRI Webinar Series, April 9th, 2020, and 10 other legal industry events in 2020.

“Virtual Reality in Litigation” 2020 DRI Products Liability, New Orleans, LA, February 6, 2020

“Seeing the Unwitnessed Hand and Power Tool Accident,” 2019 DRI Products Liability, Austin, TX, February 6, 2019

“Virtual vs Reality: Navigating the Matrix of Your Case,” 2019 DRI Products Liability, Austin, TX, February 6, 2019

“The Use of VR Technology in Accident Analysis and Reconstruction,” 2019 DRI Products Liability, Austin, TX, February 6, 2019

“The Use of Virtual Reality Technology in Aviation Cases,” SMU Air Law Symposium, Irving, TX, March 28, 2019

“A Picture is Worth 1000 Words: Seeing the Unwitnessed Facts in Accidents,” PLP&D 2017 Fall Workshop, Rosemont, IL, October 12, 2017

“A Picture is Worth 1000 Words,” Children’s Products Panel Counsel Meeting, Las Vegas, NV, February 7, 2017

“A Picture if Worth 1000 Words: Demonstrative Exhibits in Litigation,” XXVIIIth Annual International Occupational Ergonomics and Safety Conference, Chicago, IL, June 9-10, 2016

“Commercial Hand Fed Chipper Winch Line Accident Reconstruction Analysis,” 27th Annual Occupational Ergonomics and Safety Conference, 2015

“Visualization: The Science of Seeing the Facts,” Georgia Defense Lawyers Association, 2015

Publications

Fox, Charles A., McAlpine, Melissa L., and Owens, Kevin G. “Virtual Reality: Put Your Best Foot Forward,” DRI, For the Defense, Product Liability, April 2020, pp. 58-65.

Fox, Charles A., Kenner, Matthew T., Lueck, Jay K., Morris, Steven L., and Winn, Robert C., “The Use of Virtual Reality Technology in Aviation Accident Analysis and Reconstruction,” SMU Air Law Symposium, Dallas, TX, March 27-29, 2019.

Fox, Charles A., Kenner, Matthew T., Lueck, Jay K., Morris, Steven L., and Winn, Robert C., “Aviation Accident Reconstruction Using Virtual Reality and Other New Technologies”, DRI Meeting Publication, February 2019.

Fox, Charles A. “When A Picture is Worth More than 1000 Words”, MDLA The Quarterly, Fall 2019, pp. 8-11.

Brickman, Dennis B., Roberts, Julius M., and **Fox, Charles A.**, “Automatic Sliding Door Sensor Safety Analysis,” Proceedings of the XXVIIIth Annual International Occupational Ergonomics and Safety Conference, Chicago, IL, June 9-10, 2016, pp. 29-35.

Brickman, Dennis B., Novak, Gary J., **Fox, Charles A.**, Lueck, Jay K., and Karlins, Scott A., "Shelving Cart Design and Manufacturing Safety Analysis," Proceedings of the XXVIIIth Annual International Occupational Ergonomics and Safety Conference, Chicago, IL, June 9-10, 2016, pp. 17-22.

Brickman, Dennis B., Bajzek, Thomas J., Knox, Erick H., **Fox, Charles A.**, Lueck, Jay K., and Petersen, John M., "Beach Rental Elevator Child Entrapment Safety Analysis," Proceedings of the XXVIIIth Annual International Occupational Ergonomics and Safety Conference, Chicago, IL, June 9-10, 2016, pp. 23-28.

Edwards, Dale B., Brickman, Dennis B., **Fox, Charles A.**, and Brewster, Rodney A., "Failure Analysis of a Plastic Toy Helicopter," Proceedings of the Society of Plastics Engineers Annual Technical Conference, Indianapolis, IN, May 23-25, 2016, pp. 1017-1025.

Brickman, Dennis B., Knox, Erick H., **Fox, Charles A.**, and Stage, James D., "Commercial HandFed Chipper Winch Line Accident Reconstruction Analysis," Proceedings of The XXVIIth Annual International Occupational Ergonomics and Safety Conference, Nashville, TN, May 28-29, 2015, pp. 25-30.

Dr. Fox has authored 19 scientific papers in the field of molecular neurobiology.

Dr. Fox has authored two book chapters:

"Interaction Between Dopamine and Opioid Systems in the Dorsal and Ventral Striatum of the Rat," **C.A. Fox**, E.J. Curran, A. Mansour, H. Akil, S.J. Watson, Cellular and Molecular Mechanisms of the Stratum (1996)

"Biochemical Anatomy: Insights into the Cell Biology and Pharmacology of Neurotransmitter Systems in the Brain," **C.A. Fox**, A. Mansour, D.T. Chambers, J.H. Meador-Woodruff, S.J. Watson, Textbook of Psychopharmacology, pp. 45-63 (1995)