



**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  
Visualization in Dispute Resolution

### **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

## **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**

“Reconstructing Reality”, IADC Annual Meeting, Waimea, HI, July 9, 2023

“Expert Testimony: Collaborating with Experts to Educate the Jury”, DRI Product Liability Conference Panel, Austin, TX, February 3, 2023

“Future Motion: Capturing Human Performance for Litigation”, DTIC Annual Meeting, Michigan City, IN, November 17, 2022

“Future Motion: Capturing Human Performance for Litigation”, NCADA Fall Seminar, Winston-Salem, NC, September 29, 2022

“Seeing is Believing”, DTIC Trial Tactics Seminar, August 18, 2022

"Future Motion: Capturing Human Performance for Litigation" QPWB CLE Webinar, June 27, 2022

"Product Liability Trial Tactics – Elements and Style", DRI Product Liability Conference, Las Vegas, NV, February 2, 20202

"Seeing is Believing" "Data at a Distance", Quinteros, Prieto, Wood & Boyer Webinars, December 7, 2021

"Modern Investigation Methods: Utilizing State-of-the-Art Visualization Techniques for Fire and Explosion Investigations", PGDA Fall Meeting, Weehawken, NJ, September 23, 2021

"3D Tools: How Visualization Techniques Reveal Information Beyond the Animation", IMAT Conference, St. Louis, MO, September 13, 2021

"Collaborative Case Investigations: The Art of Virtual Inspections", DRI Product Liability Conference, Nashville, TN, August 9, 2021

"Forensic Inspections in the Time of COVID-19", I&CPS Technical Conference, April 27, 2021

2020 Webinar "Data at a Distance: The Art of Remote Inspections" DRI Webinar Series, April 9<sup>th</sup>, 2020, and 12 other legal industry events in 2020 & 2021.

"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," 27<sup>th</sup> Annual Occupational Ergonomics and Safety Conference, 2015

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

## Publications

**Fox, Chuck** and Roberts, Julius. "Future Motion: Capturing Human Performance for Litigation", Georgia Defense Lawyer, Volume XIX, Issue I Summer 2022.

**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 27-19, 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)