

**TESTIMONY OF JESSE DAVID, PH.D.  
ON THE 2010-2011 HOURS OF SERVICE RULE**

**NOVEMBER 30, 2011**

Mr. Chairman and Members of the Subcommittee:

I am an economist and a Senior Vice President at Edgeworth Economics, a consulting firm based here in D.C. I have a Ph.D. in economics, with specialization in public finance and environmental economics, and 15 years of experience as a practitioner in the area of regulatory policy evaluation.

I was retained by the American Trucking Associations to analyze the cost-benefit calculations in the RIA issued by FMCSA last December for this proposed rule.<sup>1</sup> My analysis focuses on whether the agency's methods were accurate and consistent with current data and the precepts of economics, and compares FMCSA's approach to RIAs issued for prior HOS proposals.

I will first summarize FMCSA's results on the cost-benefit question. For Option 2, which would restrict driving time to 10 hours per day from the current limit of 11 hours, FMCSA estimates costs to the industry of \$990 million per year due to lost productivity. The agency also includes compliance costs of \$40 million per year. FMCSA estimates benefits in two areas: reduced crash frequency (\$720 million per year), and improved driver health due to increased sleep (\$690 million per year). In total, FMCSA calculates net benefits of \$380 million per year for Option 2. (See Exhibit 1.)

In my report, which I understand has been entered into the record here, I identify several problems with FMCSA's assumptions and calculations. The agency has made a number of substantial changes to its approach since the previous RIA issued in 2007. I find that, in every instance, the new methodologies increase the apparent net benefits of the proposed rule. However, many of these new approaches rely on misapplication of available data, use of outdated information, or lack empirical support entirely. I will describe three of the most significant issues here.

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<sup>1</sup> Edgeworth Economics, "Review of FMCSA'S Regulatory Impact Analysis for the 2010-2011 Hours of Service Rule," prepared for the American Trucking Associations, February 15, 2011. Complete references for all statements in this testimony are included in the Edgeworth report.

First, FMCSA bases its calculations on an outdated figure for the frequency of large-truck crashes. Since the benefits of the proposed rule relate to reducing crash frequency, the current rate of crashes is a key input to the analysis. FMCSA uses a figure of 434,000 crashes per year, which is approximately the rate of crashes 10 years ago, before the current HOS rule was implemented. (See Exhibit 2.) Large-truck crashes have declined steadily, falling to 286,000 in 2009—34 percent lower than FMCSA’s figure. This assumption alone inflates the benefits of the proposed rule by about \$250 million per year.

A second issue relates to FMCSA’s calculation of the fraction of crashes that are caused by driver fatigue. Only these types of crashes could be affected by the proposed rule, so again this is a critical assumption.

In its 2007 RIA, FMCSA concluded that driver fatigue was a factor in about 7 percent of all crashes. FMCSA now uses a new method and a different source of data (the Large Truck Crash Causation Study or “LTCCS”) and calculates a much larger fraction of crashes associated with driver fatigue—13 percent, almost twice as high as the agency’s previous conclusion. However, the agency’s new method is unsound. FMCSA inappropriately assumes that each “associated factor” identified in the LTCCS for a particular crash was the “cause” of the crash, even when multiple factors were present. For example, suppose investigators identified three “associated factors” for a particular crash: prescription drug use by the driver, speeding, and fatigue. The agency assumes that eliminating driver fatigue would have caused that crash to be avoided. This new method contradicts FMCSA’s own conclusions in the LTCCS report, when it acknowledged that each “associated factor” could not be considered to represent an independent cause of a crash.

I calculate that increasing the assumed fraction of crashes caused by fatigue from the 7 percent figure used in the previous RIA to the unsupportable 13 percent figure inflates the net benefits of the proposed rule by about \$330 million per year.

A third problem with FMCSA’s methods relates to assumptions about the benefits of increased sleep time for driver health. In previous RIAs, FMCSA had concluded that existing HOS rules did not have any adverse impact on driver health. In the new RIA, however, FMCSA calculates substantial benefits based on the assumption that very small increases in sleep time within the normal daily range of 6 to 8 hours will result in improved health.

A significant problem with FMCSA's new approach relates to the agency's application of results from a study by Ferrie, et al. on the mortality rates associated with varying levels of sleep. Ferrie calculated mortality rates for a cohort of British civil servants in the 1980s who had reported daily sleep levels in the categories of "5 hours or less," 6, 7, 8, and "9 hours or more." While Ferrie did find increased mortality associated with the lowest and highest responses, the researchers found no statistically significant differences between the mortality rates of people who reported between 6 and 8 hours of sleep.

Other academic research has confirmed these conclusions. For example, Cappuccio, et al. concluded: "Currently, there is no evidence that sleeping habitually between 6 and 8h per day in an adult is associated with harm and long term health consequences." FMCSA cites the Cappuccio study in the RIA, but ignores this key finding. I understand that Professor Cappuccio has submitted a report into this docket stating that the agency misinterpreted and misused his research to support its conclusions.

FMCSA's unsupported assumptions about reduced driver mortality inflate the net benefits of the proposed rule by \$690 million annually.

These three issues are the most significant ones that I found with the RIA, in cost-benefit terms, but there are numerous additional unsupported assertions and methodological errors which further inflate the apparent benefits of the proposed rule. When I correct for these issues, I find that the new rule would result in a net *cost* of \$320 million annually, rather than a net *benefit* of \$380 million annually, as calculated by FMCSA.

Thank you for your time. I encourage you to read my report for additional detail on the issues I have discussed here.

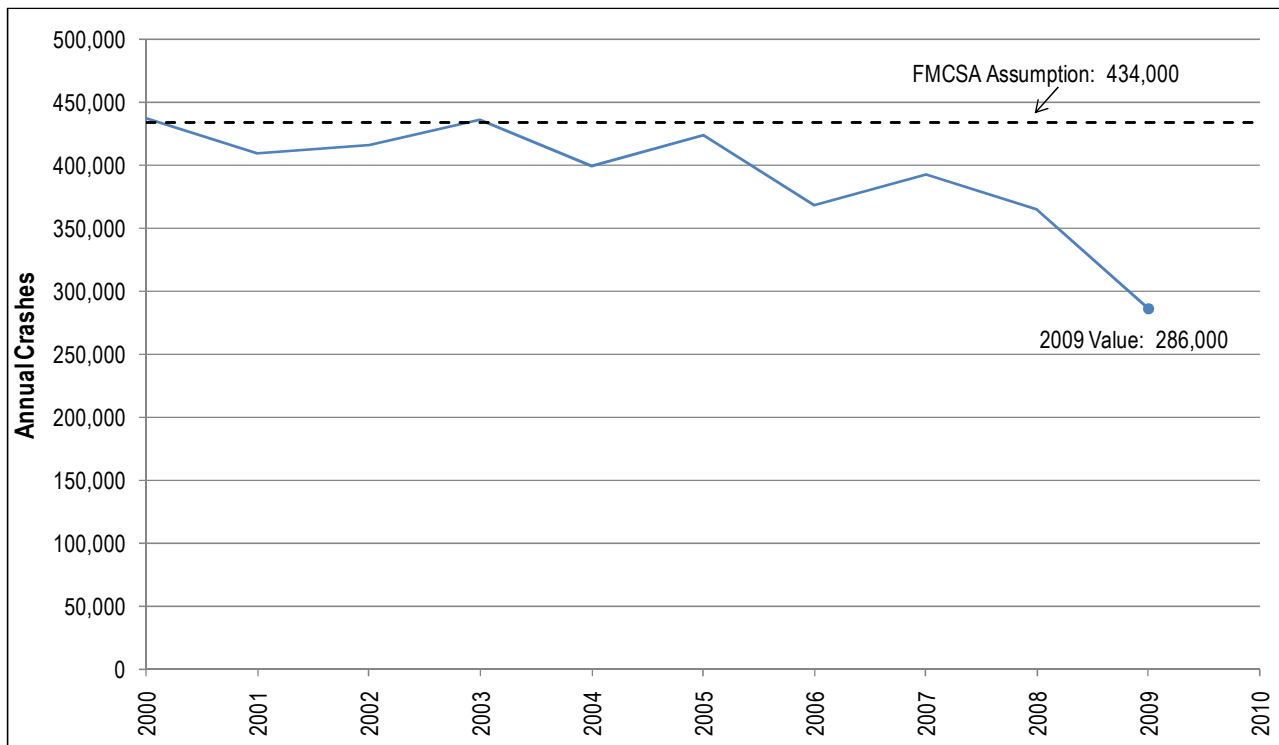
**Exhibit 1**

**Annualized Costs and Benefits for HOS Option 2  
FMCSA Assumptions vs. Edgeworth Adjustments  
(million 2008\$)**

	<i>Costs</i>		<i>Benefits</i>			<i>Net Benefits</i>
	<i>Lost Productivity</i>	<i>Compliance</i>	<i>Safety - Reduced Driving Time</i>	<i>Safety - Reduced Work Time</i>	<i>Improved Driver Health</i>	
FMCSA	\$990	\$40	\$180	\$540	\$690	<b>\$380</b>
Edgeworth	\$360	\$40	\$30	\$50	\$0	<b>-\$320</b>

**Exhibit 2**

**Large Truck Crashes, 2000-2010**



Committee on Oversight and Government Reform  
Witness Disclosure Requirement - "Truth in Testimony"  
Required by House Rule XI, Clause 2(g)(5)

Name: Jesse David

1. Please list any federal grants or contracts (including subgrants or subcontracts) you have received since October 1, 2008. Include the source and amount of each grant or contract.

none

2. Please list any entity you are testifying on behalf of and briefly describe your relationship with these entities.

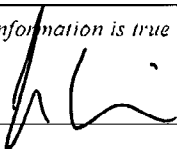
Edgeworth Economics, LLC - employee

3. Please list any federal grants or contracts (including subgrants or subcontracts) received since October 1, 2008, by the entity(ies) you listed above. Include the source and amount of each grant or contract.

none

I certify that the above information is true and correct.

Signature:



Date:

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**Jesse David**  
**Senior Vice President**

Jesse David heads the Los Angeles office for Edgeworth Economics. Dr. David is an expert on the valuation of intangible assets, market definition, and the assessment of economic impacts in complex commercial disputes and regulatory proceedings. His experience spans antitrust, regulatory, environmental, class certification, and other economic issues related to the intersection of business and government.

Dr. David has provided economic consulting and expert testimony for many industries, including pharmaceuticals, petroleum products, chemicals, software, and consumer products. He frequently submits expert reports to and testifies before decision-making bodies, including U.S. federal and state courts, the Federal Energy Regulatory Commission, the National Energy Board of Canada, and various arbitration venues.

**EDUCATION**

Stanford University  
Ph.D., Economics, 2000

Brandeis University  
B.A., *magna cum laude*, Economics and Physics, 1991

**EMPLOYMENT**

Edgeworth Economics, LLC, Washington, D.C.  
September 2009-present, Senior Vice President

Criterion Economics, LLC, Washington, D.C.  
March 2009-September 2009, Senior Vice President

National Economic Research Associates, Inc., White Plains, NY  
2004-2009 Vice President  
2000-2004 Senior Consultant  
1997-1999 Senior Analyst

Stanford University, Palo Alto, CA  
1993-1995 Research Assistant/Teaching Assistant

## TESTIMONY AND EXPERT REPORTS

*Riverplace Development, LLC vs. Charles Cranford, Esquire and Rogers Towers, P.A.*, Circuit Court, Fourth Judicial Circuit, in and for Duval County, Florida.

Deposition, October 12, 2011.

*Pfizer, Inc., et al. vs. Teva Pharmaceuticals USA, Inc. and Teva Pharmaceuticals Industries, Ltd.*, U.S. District Court for the District of Delaware.

Expert report, June 3, 2011. Deposition, July 22, 2011.

*Ramona Trombley, et al. v. National City Bank*, U.S. District Court for the District of California.

Expert report, May 27, 2011. Declaration, August 29, 2011.

*Rocky Mountain Farmers Union, et al. vs. James N. Goldstene*, U.S. District Court for the Eastern District of California.

Declarations, October 29, 2010 and March 14, 2011.

*Investment Technology Group, Inc., et al. vs. Liquidnet Holdings, Inc.*, U.S. District Court for the Southern District of New York.

Expert report, April 12, 2010. Deposition, June 2, 2010.

*In Re: Mushroom Direct Purchaser Antitrust Litigation*, U.S. District Court for the Eastern District of Pennsylvania.

Mediation testimony, January 5, 2010.

*AOB Properties, Ltd. vs. Laserspine Institute, LLC, et al.*, U.S. District Court for the Middle District of Florida, Tampa Division.

Expert report, December 11, 2009.

*Glaxo Group Ltd. and SmithKlineBeecham Corporation vs. Teva Pharmaceuticals USA, Inc.*, U.S. District Court for the District of Delaware.

Expert reports, October 15, 2009 and November 3, 2009. Declaration, April 9, 2010. Deposition, November 3, 2009.

*Tyco Healthcare Group LP and Mallinckrodt Inc. vs. Pharmaceutical Holdings Corporation, Mutual Pharmaceutical Company, Inc. and United Research Laboratories, Inc.*, U.S. District Court for the District of New Jersey.

Declaration, July 22, 2009. Deposition, July 23, 2009. Hearing testimony, July 29, 2009.

*Weather Central, Inc. and MyWeather, LLC vs. Reinhart Boerner Van Deuren, S.C., Reinhart Boerner Van Deuren, P.C., Peter J. Manghera and Attorneys' Liability Assurance Society, Inc.*, U.S. District Court for the Western District of Wisconsin.

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*ESCO Corporation vs. Bradken Resources Pty Ltd*, International Chamber of Commerce, International Court of Arbitration.

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*Schering Corporation and MSP Singapore Company LLC vs. Glenmark Pharmaceuticals Inc., USA and Glenmark Pharmaceuticals Ltd.*, U.S. District Court for the District of New Jersey.

Expert report, May 8, 2009. Deposition, June 18, 2009.

*Eli Lilly and Company v. Sicom Pharmaceuticals, Inc. and Teva Pharmaceuticals USA, Inc.*, U.S. District Court for the Southern District of Indiana.

Expert report, February 24, 2009. Deposition, March 20, 2009.

*Tobacco Technology, Inc. v. Taiga International N.V., Thomas J. Massetti, and Marie-Paul Voûte*, U.S. District Court for the District of Maryland.

Expert report, August 21, 2008. Deposition, November 25, 2008.

*Dow Jones & Company, Inc. v. Ablaise Ltd. and General Inventions Institute A, Inc.*, U.S. District Court for the District of Columbia.

Expert report, August 20, 2008.

*Aspex Eyewear, Inc. and Contour Optik, Inc. v. Clariti Eyewear, Inc.*, U.S. District Court for the Southern District of New York.

Expert report, June 20, 2008.

*Boldstar Technical, LLC and Michael S. Powell v. The Home Depot, Inc. and Industriaplex, Inc.*, U.S. District Court for the Southern District of Florida, Fort Lauderdale Division.

Expert reports, April 25, 2008 and May 30, 2008. Deposition, August 29, 2008. Trial testimony, February 10-11, 2010.

*Novartis Pharmaceuticals Corporation, Novartis Corporation, and Novartis International AG v. Mylan Pharmaceuticals, Inc. and Mylan Laboratories, Inc.*, U.S. District Court for the District of New Jersey.

Expert report, March 26, 2008. Declaration, October 1, 2008. Deposition, October 9, 2008.

*Gary W. Ogg and Janice Ogg v. Mediacom LLC*, Circuit Court of Clay County, Missouri in Liberty.

Expert reports, March 5, 2008 and April 3, 2008. Deposition, April 4, 2008. Trial testimony, March 13 and 17, 2009.

*Source Search Technologies, LLC v. LendingTree, LLC, et al.*, U.S. District Court for the District of New Jersey.

Expert report, May 1, 2007. Deposition, June 21, 2007.

*Federal Insurance Company v. InterDigital Communications Corporation, et al.*, JAMS arbitration.

Deposition, February 27, 2007. Arbitration testimony, May 16, 2007.

*Student Lifeline, Inc. v. The Senate of the State of New York, et al.*, U.S. District Court for the Eastern District of New York.

Expert report, January 29, 2007. Deposition, July 26, 2007.

*Pediatrix Screening, Inc. et al v. Telechem International, Inc.*, U.S. District Court for the Western District of Pennsylvania.

Expert reports, December 15, 2006, February 16, 2007, and July 6, 2007. Deposition, March 28, 2007. Trial testimony, July 18-19, 2007.

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Expert report, August 31, 2006. Deposition, October 13, 2006. Trial testimony, November 6, 2006.

*Central Valley Chrysler Jeep, Inc. et al. v. Witherspoon*, U.S. District Court for the Eastern District of California.



Expert reports, June 12, 2006, October 9, 2006, and January 16, 2007. Deposition, October 27, 2006.

*Sierra Club et al. v. Robert B. Flowers, et al.*, U.S. District Court for the Southern District of Florida, Miami Division. Depositions, June 6, 2006 and June 20, 2006. Hearing testimony, October 5, 2006. Declaration in support of appeal, U.S. Court of Appeals for the Eleventh Circuit, July 27, 2007.

*Merck & Co., Inc. v. Teva Pharmaceuticals USA, Inc.*, U.S. District Court for the District of Delaware. Expert report, April 6, 2006. Deposition, August 8, 2006.

*Alliance Security Products, Inc. v. Fleming and Company*, Pharmaceuticals, U.S. District Court for the Southern District of New York. Expert report, March 30, 2006. Deposition, May 17, 2006.

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*Tesoro Canada Supply & Distribution Ltd. in Hearing Order MH-2-2005 Regarding an Application for Priority Destination from Chevron Canada Limited, et al.*, National Energy Board of Canada. Direct testimony, January 18, 2006.

*McKesson Information Solutions, LLC v. The TriZetto Group, Inc.*, U.S. District Court for the District of Delaware. Expert report, November 17, 2005. Deposition, November 30, 2005.

*Touch-n-Buy, Inc. v. Radiant Telecom, Inc., et al.*, U.S. District Court for the Southern District of Florida. Expert report, November 9, 2005. Deposition, February 8, 2006.

*Jamaica Recycling Corp., et al. v. The City of New York, et al.*, Supreme Court of the State of New York, County of New York. Affidavit, August 18, 2005.

*Amerisource Corporation v. RX USA International, Inc., et al.*, U.S. District Court for the Eastern District of New York. Expert report, August 15, 2005. Deposition, June 5, 2006.

*Ruth S. King v. McNeil Nutritionals LLC and McNeil PPC-Inc.*, Supreme Court of the State of New York, County of New York. Declaration, August 3, 2005. Deposition, September 26, 2005. Also in *Rochelle Suchoff, et al. v. McNeil Nutritionals LLC and McNeil PPC-Inc.*, Superior Court of New Jersey, Law Division, Essex County; *Jason Gregory Turner v. McNeil Nutritionals LLC and McNeil PPC-Inc.*, Superior Court of the State of California for the County of Los Angeles; *Harry Clendenan v. McNeil Nutritionals LLC and McNeil PPC-Inc.*, Circuit Court of Kanawha County, West Virginia; *Elizabeth Leser v. McNeil Nutritionals LLC and McNeil PPC-Inc.*, Court of Common Pleas, Erie County, Ohio; *Bobby Allen Green v. McNeil Nutritionals, LLC*, Judicial Court, Fourth Judicial Circuit in and for Duval County, Florida, Division CV-A; and *Jacqueline Burrows, et al. v. McNeil Nutritionals LLC and McNeil PPC-Inc.*, Superior Court of Massachusetts, Middlesex County.

*Braun GmbH v. Rayovac Corporation*, U.S. District Court for District of Massachusetts. Expert reports, May 23, 2005 and June 27, 2005. Deposition, September 8, 2005.

*PediaMed Pharmaceuticals, Inc. v. Breckenridge Pharmaceutical, Inc. and Scientific Laboratories, Inc.*, U.S. District Court for the District of Maryland, Southern Division. Expert report, October 1, 2004.

*Forrest W. Garvin and E-Netec, Corp. v. McGuireWoods, LLP, et al.*, General Court of Justice, Superior Court Division for the State of North Carolina, Mecklenburg County.  
Deposition, July 27, 2004.

*ResQNet.com, Inc. v. LANSAs, Inc.*, U.S. District Court for the Southern District of New York.  
Expert reports, July 14, 2004 and January 25, 2007. Depositions, August 9, 2004 and May 6, 2011. Trial testimony, May 21, 2007 and June 7, 2011.

*Allocco Recycling, Ltd. v. John Doherty*, U.S. District Court for the Southern District of New York.  
Expert report, February 4, 2004. Deposition, December 9, 2004. Declaration, December 2, 2005.

*Pinnacle Systems, Inc. v. XOS Technologies, Inc., et al.*, U.S. District Court for the Northern District of California.  
Expert report, November 7, 2003. Deposition, January 15, 2004. Trial testimony, February 11, 2004.

*Sinclair Oil Corporation v. BP Pipelines (North America), Inc.*, Federal Energy Regulatory Commission.  
Direct testimony, September 18, 2003. Rebuttal testimony, March 16, 2004.

#### **PUBLICATIONS AND PUBLICLY AVAILABLE RESEARCH PAPERS**

“Review of PHMSA’s Regulatory Analysis for the External Piping Requirement,” April 22, 2011, prepared for National Tank Truck Carriers, Inc. and submitted into the public docket.

“Review of FMCSA’s Regulatory Impact Analysis for the 2010-2011 Hours of Service Rule,” February 15, 2011, prepared for the American Trucking Associations and submitted into the public docket.

“The Economic Impact of a Potential NFL Lockout in 2011,” December 6, 2010, prepared for the National Football Players Association.

“Empirical Evidence and Class Certification in Labor Market Antitrust Cases,” *25 Antitrust* 1 (2010), co-authored with John Johnson and Paul Torelli.

“Economic Approaches to Royalty Calculations,” in *Intellectual Property Law360*, May 25, 2010, co-authored with Kara Gorski.

“A Cost-Benefit Analysis of Gear Replacement for Gulf Shrimp Fishermen,” December 4, 2008, prepared for the Ocean Conservancy.

“A Review of FMCSA’s Regulatory Evaluation for the Proposed Minimum Training Requirements for Entry-Level Commercial Motor Vehicle Operators,” April 8, 2008, prepared for the American Trucking Associations.

“A Review of FMCSA’s Regulatory Impact Analysis for Hours of Service Options,” February 4, 2008, prepared for the American Trucking Associations.

“Intellectual Property Rights in Developing Nations,” research paper for NERA Economic Consulting, prepared for the International Intellectual Property Institute (2008), co-authored with Sourav Chatterjee, Fei Deng, Christian Dippon, and Mario Lopez.

“Commercial Success: Economic Principles Applied to Patent Litigation,” in *Economic Approaches to Intellectual Property Policy, Litigation, and Management* (Gregory K. Leonard & Lauren J. Stiroh, eds. National Economic

Research Associates 2005); also in Economic Damages in Intellectual Property (Daniel Slottje ed., John Wiley & Sons 2006); co-authored with Marion B. Stewart.

“Interest and Discount Rates in Intellectual Property Damages,” in Economic Approaches to Intellectual Property Policy, Litigation, and Management (Gregory K. Leonard & Lauren J. Stiroh, eds. National Economic Research Associates 2005), co-authored with Christine Meyer.

“Determining Reasonable Compensation for Employee Inventions in Japan,” 6 *Global Intellectual Property Asset Management Report* 9 (2004), co-authored with Satoshi Nakashima.

“Where Is the Market Failure? A Review of OSHA’s Economic Analysis for Its Proposed Ergonomics Standard,” 22 *Journal of Labor Research* 75 (2001), co-authored with Mark Berkman.

“Water Subsidies in Southern California, Do They Exist and Have They Contributed to Urban Sprawl?” 37 *California Western Law Review* 121 (2000), co-authored with Mark Berkman.

“The Welfare Implications of Recycled Newsprint Regulation,” doctoral dissertation, Stanford University (2000).

## PRESENTATIONS

“Economic Issues in Pharmaceutical Patent Litigation,” at Edgeworth Economics CLE Seminar, Washington, DC, September 2010.

“The Evolution of a Complex Damages Report,” at Edgeworth Economics CLE Seminar, Philadelphia, PA, April 2010.

“Economists’ Views of Recent Patent Damages Decisions,” at Edgeworth Economics CLE Seminar, Washington, DC, April 2010.

“When Does a Damages Expert’s Analysis Cross the Daubert Line?” at the *Judicial Education Program* presented by Northwestern University School of Law, Chicago, IL, February 2009.

“Copyright Valuation and Damages Assessment,” at Law Seminars International Conference: *Copyright Law Counseling, Management and Litigation*, Seattle, WA, April 2008.

“Trade Secret Valuation and Damages Assessment,” at Lexis-Nexis Conference: *Trade Secret Protection: Realizing Best Practices for Trade Secret Protection*, Shanghai, China, December 2007.

“Comparables: The Use and Misuse of Benchmark Royalty Rates for Patent Damages,” at NERA CLE Seminar, San Francisco, CA, January 2007.

“Selecting the Best Type of Expert and Tips for an Effective Working Relationship,” at Law Seminars International Conference: *Calculating and Proving Patent Damages*, Philadelphia, PA, October 2006.

“When You Get to the Fork in the Road, Take It! Alternative Approaches to Defending your Transaction before the Agencies,” at *NERA Antitrust Trade and Regulation Conference*, Santa Fe, NM, July 2006.

“The Role of Economic Analysis in Intellectual Property Litigation,” at Sonnenschein Nath & Rosenthal CLE Program, Chicago, IL, January 2006; also at *NERA Intellectual Property Roundtable*, Tokyo, Japan, July 2004.

"IP/Antitrust Lawsuits: Relevant Markets and Class Actions," at Practising Law Institute Workshop: *Intellectual Property Antitrust 2005*, New York City, June 2005.

"The Role of Economics in Complex Business Litigation," at Columbus Bar Association CLE Program, Columbus, OH, December 13, 2004.

"Is Bankruptcy the Answer?" at *Asbestos Litigation Conference* sponsored by Glasser LegalWorks, New York, NY, April 2003.

The Secondary Impact of Asbestos Liabilities, at U.S. Chamber of Commerce conference: *Understanding Asbestos Litigation: The Genesis, Scope, and Impact*, Washington, D.C., January 2003.

"Trends in Intellectual Property Litigation," at Licensing Executives Society conference, San Jose, CA, April 2002.

"Environmental Risk and the Bottom Line," at 2001 NAEM *Environmental Management Forum*, San Antonio, TX, October 2001; also at *Financial Executives Summit*, Scottsdale, AZ, May 2001.

"Competitive Analysis in the Refined Petroleum Products Pipeline Industry," at *Advanced Workshop in Regulation and Competition*; Competitive Change in Network Industries 14th Annual Western Conference, San Diego, CA, June 2001.