

LOUIS ANTHONY (TONY) COX, JR., PH.D, FOUNDER

Cox Associates, 503 Franklin Street, Denver, Colorado, 80218

(303)-898-1814 (Phone); (303)-388-0609 (Fax); tcoxdenver@aol.com

Tony Cox is President of Cox Associates (www.cox-associates.com) and its new subsidiary, MoirAI, a Denver-based AI/ML and analytics company specializing in computational toxicology, public and occupational health, safety, and environmental risk analysis; epidemiology; policy analytics; and customer behavior modeling. Since 1986, Cox Associates' analysts and scientists have applied advanced analytics to measurably improve health and environment risk assessment and decision-making for public and private sector clients. In 2006, Cox Associates was inducted into the Edelman Academy of the Institute for Operations Research and Management Science (INFORMS), recognizing outstanding real-world achievements in the practice of operations research and the management sciences. In 2012, Dr. Cox was inducted into the [National Academy of Engineering \(NAE\)](#) "For applications of operations research and risk analysis to significant national problems." He has served as a member of the National Academies' Board on Mathematical Sciences and their Applications (BMSA) (2012-2016) and as Chair of the [Clean Air Scientific Advisory Committee \(CASAC\)](#) for the United States Environmental Protection Agency (EPA).

Dr. Cox holds a Ph.D. in Risk Analysis and an S.M. in Operations Research, both from MIT; an AB from Harvard University; and is a graduate of the Stanford Executive Program. He is Associate Professor of Business Analytics at the University of Colorado, Denver, where he has also served as Honorary Full Professor of Mathematics lecturing on applied statistics, data science, decision and risk analysis, biomathematics, health risk modeling, and causality; on the Faculties of the Center for Computational Mathematics and the Center for Computational Biology; and as Clinical Professor of Biostatistics and Informatics at the University of Colorado Health Sciences Center. He has served as an expert in risk analysis on many National Academies, World Health Organization, EPA, USDA, and other agency projects, committees, and advisory boards.

Dr. Cox is [Editor-in-Chief of Risk Analysis: An International Journal](#). He is Area Editor for Real World Applications for the *Journal of Heuristics*, and is on the Editorial Boards of *Decision Analysis* and the *International Journal of Operations Research and Information Systems*. He is a Fellow and an Edelman Laureate of INFORMS, a member of the American Statistical Association (ASA), and a lifetime Fellow of the Society for Risk Analysis (SRA). In 2015 and 2018, his research applying machine learning to high-throughput screening data won Best Published Papers awards from the Society of Toxicology Risk Assessment Specialty Section. His previous research has won the Society of Toxicology's Outstanding Published Paper in Risk Assessment Award and the Society for Risk Analysis Outstanding Risk Practitioner Award. In 2008, his solution to a challenge on "Statistical Methods to Predict Clinical Response" won an InnoCentive Award.

Dr. Cox has taught many graduate and professional courses in risk analysis, decision analysis, and advanced analytics. He has authored and co-authored over 200 journal articles and book chapters on these fields. His most recent books are [Quantitative Risk Analysis of Air Pollution Health Effects](#) (Springer 2021), [Causal Analytics for Applied Risk Analysis](#) (Springer, 2018), [Breakthroughs in Decision Science and Risk Analysis](#) (Wiley, 2015), [Improving Risk Analysis](#) (Springer, 2013), and the *Wiley Encyclopedia of Operations Research and Management Science* (Wiley, 2011), which Dr. Cox co-edited. He has over a dozen U.S. patents on applications of artificial intelligence, signal processing, statistics and operations research. His current research interests include computational statistical methods for causal inference in public and occupational health risk analysis, AI/ML for decision optimization under uncertainty, and learning in uncertain and changing environments.

LOUIS ANTHONY COX, JR., PH.D

Cox Associates and MoirAI, 503 Franklin Street, Denver, Colorado, 80218
(303)-388-1778 (Phone); (303)-388-0609 (Fax); tcoxdenver@aol.com

WORK HISTORY

- 1986 - Present President, Cox Associates. Cox Associates is an independent Denver-based consulting company specializing in advanced analytics, public and occupational risk analysis, epidemiology, data science and statistics, artificial intelligence, risk analysis, management science, and operations research for public- and private-sector clients. Cox Associates develops and applies quantitative risk assessment, machine learning, uncertainty analysis, decision optimization models and artificial intelligence and computational statistics to quantitatively assess health risks and to measurably improve client decision-making. In 2013, Dr. Cox co-founded NextHealth Technologies (NHT), a company offering advanced data analytics solutions to healthcare plans to measurably reduce health, financial, and member attrition risks and to improve member values and health outcomes under the provisions of the Affordable Care Act.
- 1987 - 1996 Senior Director for US West Advanced Technologies in Boulder, Colorado. Built world-class management science and operations research team, headed Business and Engineering Modeling, Communications Services Research, and Network Architecture divisions; secured corporate and external funding commitments for \$11M annual applied research budget; managed twelve director areas and over 100 professional engineers and scientists in statistical and econometric modeling, optoelectronics, network architectures and technologies, network economics and performance analysis, wireless architecture and engineering, network evolution, product test and development, standards, international projects, digital signal processing, network optimization, and breakthrough projects.
- 1980 - 1986 Manager, Applied Decision Sciences practice area; Senior Consultant in Operations Research, Arthur D. Little, Inc., Cambridge, MA
- 1978 - 1979 Senior Research Associate, American Institutes for Research in the Social and Behavioral Sciences (AIR), Washington, D.C. and Cambridge, MA

Present and Past Academic Affiliations

- Associate Professor of Business Analytics, University of Colorado, Denver
- [Visiting Scholar](#), The George Washington University Regulatory Studies Center
- Clinical Professor, Biostatistics and Informatics, University of Colorado
- Honorary Full Professor of Mathematics, University of Colorado at Denver (UCD)
- Faculty, Center for Computational Biology, UCD
- Adjunct Faculty member, Center for Computational Mathematics, UCD
- Advisory Board, Center for Human Performance and Risk Analysis (CHPRA), University of Wisconsin at Madison
- Clinical Professor, Preventive Medicine and Biometrics, University of Colorado
- Instructor, Computer Science Department, University of Colorado at Denver. Taught courses on causal inference and computational statistical methods.
- Faculty, Daniels School of Business, Denver University. Taught graduate courses on statistics.
- Faculty, Leeds School of Business, University of Colorado at Boulder. Taught courses on decision analysis and statistical decision theory.
- Faculty, Harvard University Extension School. Taught course on decision and risk analysis.

EDUCATION

1986 - Present	Professional courses, seminars, and tutorials in data science, advanced analytics, management science, operations research, computational statistics, neuroeconomics, behavioral economics
1993	Stanford Executive Program, Stanford Business School
1985 - 1986	M.I.T., Ph.D. in Risk Analysis. Dissertation: <i>Mathematical Foundations of Risk Measurement</i>
1983 - 1985	M.I.T., S.M. in Operations Research, Department of Electrical Engineering and Computer Science. Thesis: <i>Attribution of Risk in the Presence of Joint Causes.</i>
1979 - 1983	Harvard University, graduate courses in applied mathematics, theoretical and applied statistics, psychometrics, and decision sciences
1975-1978	Harvard University, A.B. (Mathematical Economics)

Selected Awards and Honors

- 2019: [Fellow, Institute for Operations Research and Management Science \(INFORMS\)](#) "for significant research, practice, and service contributions to homeland security, health and environmental risk analysis, telecommunications, and the modeling of causality."
- 2018: Society for Risk Analysis Richard J. Burk, Jr. *Outstanding Service Award* "in recognition of exceptional contributions to the field of risk analysis."
- 2018: [NASA iTech Semifinalist](#) "Analytic techniques to automate and predict large data sets."
- 2018: [Best Published Paper Demonstrating an Application of Risk Assessment](#), awarded by the Risk Assessment Specialty Section of the Society of Toxicology, March, 2018.
- 2015: *Best Published Papers Demonstrating an Application of Risk Assessment: Top Five Papers* award, awarded by the Risk Assessment Specialty Section of the Society of Toxicology, March, 2015
- 2012: Inducted into the [National Academy of Engineering](#) "For applications of operations research and risk analysis to significant national problems."
- 2011: *Best Paper Award*, Society for Risk Analysis, for [A causal model of chronic obstructive pulmonary disease \(COPD\) risk](#).http://www.sra.org/journal_best_paper_awards.php
- 2008: *Innocentive Challenge Award*. In 2008, Dr. Cox's proprietary solution to a challenge on "Statistical Methods to Predict Clinical Response" won an InnoCentive Award from Eli Lilly.
- 2007: *Outstanding Practitioner Award*, recognizing excellent performance in the practice of risk analysis. Awarded by the Society for Risk Analysis. San Antonio, TX, December, 2007.
- 2007: *Outstanding Published Paper in 2006 Demonstrating an Application of Risk Assessment*, awarded by the Risk Assessment Specialty Section of the Society of Toxicology, March, 2007.
- 2006: *Franz Edelman Finalist Award*, for achievement in the practice of Operations Research and the Management Sciences, Institute for Operations Research and Management Science (INFORMS), 2006.
- 2006: *Best Reviewer, Decision Sciences*, for *Risk Analysis: An International Journal*.
- 2003: *Best Paper Award*, Society for Risk Analysis, 2003
- 2002: *Best Paper Award*, Society for Risk Analysis, 2002, www.sra.org/news0203.pdf
- 1995: *POMS National Award Finalist* for paper: Cox LA, Bell G, Glover F. A new learning approach to process improvement in a telecommunications company. *Production and Operations Management*, 4, 3, 217-227, 1995. Production and Operations Management Society
- 1994: *INFORMS Prize*, awarded to U S WEST for world's best real-world applications of operations research with substantial business value
- 1993: Lifetime Fellow of the Society for Risk Analysis <http://www.sra.org/fellows-society>

At U S WEST Dr. Cox also received many awards. Under his leadership, U S WEST won the prestigious INFORMS Prize, awarded annually to the company in the world that has best applied operations research methods in innovative ways that have had profound business impact. Dr. Cox won the U S WEST's Chairman's Award and two Special Achievement Awards for innovations in network design credited with saving U S WEST over \$100M, and U S WEST's President's Club and Circle of Excellence Awards for innovations in probabilistic analysis of customer choice.

PROFESSIONAL ACTIVITIES

Selected Professional Societies

- Society for Risk Analysis (SRA). Fellow since 1993. (Fellowship recognizes lifetime contributions to the field of risk analysis)
- Institute for Operations Research and the Management Sciences (INFORMS), Edelman Laureate since 2006 (recognizing outstanding achievement in the practice of OR/MS.) Fellow since 2019.
- Member of the American Statistical Association since 1993.

Selected Positions Held

- Editor-in-Chief, *Risk Analysis: An International Journal*. 2013-Present
- Area Editor, Mathematical Modeling, *Risk Analysis: An International Journal*. 2008-2012
- President, Rocky Mountain Chapter, Institute for Operations Research and Management Science ([INFORMS](#)) 2013-2014
- Treasurer of the Society for Risk Analysis (SRA), 2007-8; Treasurer-Elect, 2006
- Counselor for the 400-member ORSA Special Interest Group on Telecommunications, 1992
- Member of the International Life Sciences Institute's (ILSI's) Risk Science Institute Cancer Dose-Response Working Group in 1991-1992.
- Counselor, Rocky Mountain Chapter of the SRA, 1990-1991
- Secretary and co-founder, New England Chapter of the SRA, 1985-86

ACADEMIC EXPERIENCE

Graduate Courses Developed and Taught

- *Statistical Consulting*, Department of Mathematics, University of Colorado at Denver (2017)
- *Decision Analysis*, Business School, University of Colorado at Denver (2017)
- *Game Theory*, Mathematics Department, University of Colorado at Denver
- *Health Risk Analysis*, Health Sciences Center, University of Colorado
- *Causality, Inference, and Decision-Making*, Computer Science Department, University of Colorado at Denver
- *Decision and Risk Analysis*, Leeds School of Business, University of Colorado at Boulder
- *Statistics for Business*, Denver University Daniels Graduate School of Business
- *Social Decision and Risk Management*, Harvard University Extension School

Selected Professional Courses Developed and Taught

- [*Information and Causation for Health Risk Assessment*](#). Professional Development Course. American Industrial Hygiene Conference & Exposition (AIHce). Seattle WA. June 4-7, 2017
- [*Evaluating Causal Exposure-Response Relations in Epidemiological Data: Modernizing the Hill Considerations for Causality*](#). Society for Epidemiologic Research (SER) Workshop at SER 50th Anniversary Meeting. Seattle, WA. June 20-23, 2017
- [*Causal Analytics for Benefit-Cost Analysts: What Effects do Policies Cause?*](#) Workshop at the Society for Benefit-Cost Analysis (SBCA) Annual Meeting. Washington, D.C. March 15-17, 2017
- *Advances in Health Risk Assessment and Modeling*. Invited lectures presented at Risk Assessment Unit at Evira (Finnish Food Safety Authority) Helsinki. October 22-23, 2009.
- Short Course on *Causality and Decision Analysis for Risk Analysts*. Australia & New Zealand Regional Organisation of the Society for Risk Analysis. 3rd Annual Conference. Canberra, Australia. September 29, 2008.
- *Probabilistic risk analysis: Assessment, management, and communication*. Harvard Center for Risk Analysis. Boston, MA. 2000-2004. Lectures on developing valid probability models from data, subjectivity in data analysis; Bayesian inference in multivariate data sets and causal modeling and influence diagrams for risk analysis.
- [*Gordon-Kenan Risk Analysis Summer School in Risk Analysis*](#) August 3-15, 2003
Roger Williams University Bristol, RI www.grc.uri.edu/programs/2003/risk.htm
- *Probabilistic risk analysis*. Professional course for Health Canada. Ottawa, Ontario. March 25th-28th, 2002. Lectured on "Using epidemiological data in risk assessment" and on "Causal graphs, Bayesian belief networks, and influence diagrams: A framework for risk assessment and risk management".
- *Advanced Methods for Dose-Response Assessment: Bayesian Approaches*. Resources for the Future Conference Center, Washington, D.C. September 18th-20th, 2000
http://www.rff.org/disc_papers/PDF_files/0115.pdf.
- "Bayesian methods for assessing uncertain exposures", *Workshop on Probabilistic Methods for Risk Assessment*. Society for Risk Analysis, Phoenix, AZ, 12-06-98.
- *Introduction to Decision Analysis for Risk Management*, United States Department of Agriculture's APHIS Introductory Risk Analysis course, University of Maryland Conference Center, July 9, 1992.
- *Risk Assessment Modeling*, one-day short course given at the USDA Training Center, APHIS Risk Assessment Course, Fort Collins, CO, July 23-24, 1992.

Science Enrichment Courses Developed and Taught for Elementary School Children

Ricks Center for Gifted Children at the University of Denver (www.du.edu/ricks/)

- *Natural and Artificial Life, Evolution, and Intelligence* (Spring, 2010)
- *Introduction to Cosmology and Earth Science* (Spring, 2010)
- *Matter, Energy, and Technology* (Spring, 2009)
- *Introduction to Materials Science* (Spring, 2009)
- *Basic Cell Biology* (Fall, 2008)

Dissertations Supervised

Dr. Cox has served on S.M. and Ph.D. thesis committees at the University of Denver (S.M. thesis on genetic algorithms) and the University of Colorado (Ph.D. thesis on classification trees for learning forecasting models from data; MS thesis on ant colony optimization; MS project on data mining and causal simulation modeling; Ph.D. thesis on uncertainty analysis in epidemiology)

Research Collaborations

At U S WEST Advanced Technologies, Dr. Cox initiated and led collaborative research projects with top researchers at many universities, including

- Harvard University (projects on combinatorial optimization and on interactive mixed natural language and graphics dialogue interfaces, with Professor Barbara Grosz)
- Columbia University (dynamic traffic routing with Professor David Yao)
- Syracuse University (machine comprehension of scientific abstracts)
- Oregon Graduate Institute (breakthroughs in neural net and digital signal processing technologies for automated speech recognition with Professor Ron Cole).

His collaboration with mathematicians at the University of Colorado at Denver on combinatorial optimization heuristics for network routing was selected by the Colorado Advanced Software Institute (CASI) as one of only two projects (out of 30) that exemplified this state-funded Institute's major goals: outstanding industry-university technical research with high commercial value. His collaborations with UCD on new data mining algorithms and pattern recognition techniques for risk analysis and fault diagnosis algorithms were the only projects to receive CASI's award. Dr. Cox also collaborated with colleagues at Bell Labs and the University of California on fundamental research in multistate stochastic transition models and biomathematical modeling.

Other Academic Experience

Dr. Cox served on the Industry Advisory Board of the Mathematics Department at the University of Colorado at Denver, where he was subsequently Honorary Full Professor of Mathematics and on the Faculty of the Center for Computational Mathematics. He has given invited talks on advanced topics in epidemiology, occupational health and safety, public health risks, risk analysis, data science, and computer science to faculties and graduate seminars at many top universities. He is Editor-in-Chief of *Risk Analysis: An International Journal* and is Area Editor (Real-World Applications) of the *Journal of Heuristics*, which he helped to found in 1995. He is on the Editorial Board of the *International Journal of Operations Research and Information Systems*. He has reviewed many academic research proposals for the National Science Foundation's Decision, Risk, and Management Science program and SBIR technology proposals for NSF and other agencies. He has lectured on data mining, and other statistical, mathematical, and analytics topics at the University of Colorado. Dr. Cox has also taught many professional courses and professional workshops.

Conference Sessions Chaired

Dr. Cox has chaired many conference sessions, including the following:

- [*Foundational Issues in Risk Analysis, Part 2 - Uncertainty and Risk Conceptualizations*](#). Society for Risk Analysis 2019 Annual Meeting. Arlington, VA.
- [*Symposium: Risk Analysis: Past, Present, and Future*](#). Society for Risk Analysis 2013 Annual Meeting. Baltimore, MD.
- [*Symposium: Foundational Issues in Risk Analysis*](#)(with Terje Aven). Society for Risk Analysis 2013 Annual Meeting. Baltimore, MD.
- [*Ambient Air: Particulate Matter Exposure*](#). Society for Risk Analysis 2012 Annual Meeting. San Francisco. December 12, 2012.
- *Novel Approaches in Dose Response*. Society for Risk Analysis 2010 Annual Meeting. Salt Lake City. December 7, 2010.
- [*Sustainable Value Chains*](#). Institute for Operations Research and Management Science annual conference, Austin, TX, 2010.
- *Animal Pathogens and Human Exposure*. Society for Risk Analysis annual conference, San Antonio, TX, 2007. (Substituted for Dr. Michael McElvaine as chair.)
- *Assessment*. Society for Risk Analysis annual conference, San Antonio, TX, 2007.
- *Complexity in Modeling Mode-of-Action and Other Sources of Non-Linearity In Risk*. Society for Risk Analysis annual conference, Baltimore, MD December, 2006.
- *Statistical Methods: Uncertainty, Confidence Limits, etc.* Society for Risk Analysis annual conference, Palm Springs, December 5-8, 2004.
- *Toxicology*. Session at Non-Linear Dose-Response Relationships in Biology, Toxicology, and Medicine: An International Conference. (University of Massachusetts, Amherst, MA, May 28-30th, 2003)
- *Special Applications in Industry and Government*. (Society for Risk Analysis, 2002)
- *Stochastic Optimization* (Society for Industrial and Applied Mathematics, SIAM, 1996)
- Cluster chair for INFORMS sessions on "*Heuristic Optimization and Learning*" (1994).

CONSULTING EXPERIENCE

Examples of consulting projects completed by Dr. Cox include the following:

DATA MINING AND STATISTICAL MODELING AND PREDICTIVE ANALYTICS EXPERIENCE

- For the US Department of Agriculture (USDA), provided statistical consulting on effects of slaughter establishment line speeds on microbial quality (2018-2020)
- Created predictive analytics models for hypertension and cardiovascular risks based on blood lead levels and other individual-level predictors (2019)
- For an animal antibiotic manufacturer, assessed public health consequences of animal antibiotic use in China and the US (2018-2019)
- For European petroleum companies, analyzed data from Chinese factory workers to determine how well concentrations of benzene in air predict levels of urinary benzene metabolites (2018-2020)
- For health insurance back office operations giant TriZetto, assessed healthcare predictive analytics trends and vendor offerings, advised top management on predictive analytics technology acquisitions (2012)
- For Rogers Communications, developed causal models of customer satisfaction; identified high-impact interventions for improving customer satisfaction; helped to develop achievable targets and strategies for improving customer experiences in different channels (2011)
- Delivered a statistical analysis of the causal drivers of customer satisfaction to top executives at Comcast Cable; identified realistic targets and interventions for improving customer satisfaction (2010-11).
- For a top cable company, worked in partnership with North Highland consulting company to deliver a predictive model that identifies which customers are most likely to drop accounts, well before the event and with much higher accuracy than previous models. (2008)
- For an energy utility, worked in partnership with North Highland consulting company to deliver a predictive model of customer bad debt and account write-offs that greatly extended the lead time over which high-risk customers could be identified and targeted for intervention. (2007)
- For a telecommunications company, worked in partnership with North Highland consulting company to develop a predictive model of customer marketing channel choice, and usage as a function of quantity of channel experience (e.g., for web site, call center, retail store, and other channels.) Used the model to quantify financial impacts of improving web-based customer care. (2006)
- Also in partnership with North Highland consulting company, analyzed employee survey data for a major telecommunications provider and quantified patterns of internal communications (conference calls, managing e-mail, company news letters and bulletins, meetings, etc.); time spent on these activities by employees with different job roles and in different VP areas; and potential to reduce employee burden and improve the value and efficiency of internal communications. (2006)
- For a European wireless telecommunications provider, analyzed customer data to help develop more predictive segments; held a one-day intensive course in Brussels on advanced statistical models and methods for quantifying customer value in the short and long runs, based on probability and statistics models of customer behaviors in response to company offers. (2005)
- Delivered to an international telecommunications company a needs-based predictive segmentation model for cell phone customers.
- In partnership with North Highland consulting company, delivered to a directory company a credit scoring and data mining model for identifying customers at greatest risk of defaulting on Yellow Pages agreements.
- Delivered to an internet services provider (ISP) a decision-support model for predicting customers with the highest churn potential and recommending specific interventions to reduce churn. This system was found by the client to reduce churn by over 40% within 4 months among at-risk customers.
- Delivered to a financial services company a set of predictive clusters for simultaneously predicting churn, upsell, and cross-sell potentials for existing customers. The predictive validity, stability, and high practical value of the predictive clusters were confirmed by the client in 2003 and 2004.
- Completed a study to identify ways to predict which competitive local exchange carrier (CLEC) customers would experience the most revenue growth in the next quarter and which would be most likely to drop accounts.

- Completed an analysis of insurance customer data showing that combining information from homeowner, auto, and other insurance lines using classification trees and transition models could dramatically improve accurate identification of cross-sell, up-sell, and retention opportunities.
- Completed a study of purchasing patterns among large business customers for Qwest communications. The results show that a few key products, together with factors such as account age, predict likely stability or churn of customers, as well as likely growth potential.
- Delivered to statistical analyses of the effects of U S WEST and competitor advertising and publicity (including brand/service commercials, direct mail, and news stories) on customer ratings of value and loyalty.
- Analyzed marketing data for AT&T-TCI to determine which current cable customers are most likely to switch to digital cable in the next quarter, based on current cable, telephony, and demographic risk factors.
- Created and validated a statistical (semi-Markov state transition) risk model to predict product and account attrition among U S WEST customers. Delivered to the CRMS group in U S WEST Communications a predictive model for identifying the likely future purchasing, product-drop, and account disconnect behaviors of individual customers. The new model has significantly greater predictive power than previous ones, achieving lifts of several hundred percent on the task of predicting which 10% of customers are most likely to buy specific products in the next few months.
- Developed new statistical optimal matching procedures to decide which products to offer which customers to maximize average revenue yield and lifetime revenue value for U S WEST Communications. Demonstrated a potential increase of over 40% for short-term revenues. 15% revenue increase was achieved in a preliminary in-market trial of intelligent scripting.
- Used a new causal modeling and data-mining technique to predict likely future product purchases from past purchase data and demographics, for U S WEST Consumer Services Group.
- Created a new forecasting model for application to short-term and cross-sectional market data. The new method combined classification tree analysis with compartmental flow simulation. Applied to real data, it successfully allowed growth in demand for access lines to be predicted as accurately using less than 6 months of data as was previously possible using over 5 years of data with conventional time series forecasting methods. The forecasts were used by U S WEST Communications in 1997.
- Created and implemented a combined machine-learning/transition simulation forecasting technique to use detailed call records to more accurately predict traffic loads arriving at different locations within a wireless network for PrimeCo Personal Communications Services Ltd.
- Developed a simulation-based model of cable customer transitions among different behaviors (adding and dropping basic and enhanced cable services, switching among services and locations, etc.) for TCI.
- Analyzed cable franchise data for over 400 TCI cable systems to identify predictors of service quality perceptions and churn. Successfully identified unexpected demographic predictors of profitability and satisfaction.
- Analyzed macroeconomic data and survey data for a consortium of Indonesian companies to predict the penetration of telephony, PCs, internet services, and cable over the next 15 years.

RISK ANALYSIS, ECONOMICS, AND APPLIED STATISTICS CONSULTING EXPERIENCE

- For the George Washington University Regulatory Studies Center, reviewed advances in machine learning methods for learning to behave effectively in uncertain and changing environments
- For the George Washington University Regulatory Studies Center, developed models of threshold exposure-response relationships involving activation of inflammasomes
- For the National Sand and Gravel Association, developed biomathematical models of chronic inflammation-mediated lung diseases and exposure-response functions for asbestos and crystalline silica.
- For the American Chemistry Council, quantified how well *in vivo* test results for rodent carcinogens could be predicted from much less expensive high-throughput *in vitro* test results. (This work won the *Best Published Paper in 2017 Demonstrating an Application of Risk Assessment* Award from the Society of Toxicology, March, 2018)
- For the American Chemistry Council, applied machine-learning algorithms to quantify how well *in vivo* test results for endocrine disruptors could be predicted from much less expensive high-throughput *in vitro* test results.

- For the George Washington University Regulatory Studies Center, reviewed advances in econometric and statistical methods for causal analysis. Applied Granger Causality tests, panel data analysis, and other methods to time series data, and found that changes in temperature, but not changes in particulate matter, are Granger-causes of benefits previously attributed to Clean Air Act regulations.
- For the National Sand and Gravel Association, analyzed spatial distributions of socioeconomic variables and cause-specific mortality rates in California. Demonstrated that regression coefficients describing disease rates as functions of proximity to suspected hazardous sources do not have the causal interpretations often assigned to them, but reflect spurious associations due to spatially autocorrelated but statistically independent spatial stochastic processes.
- For the National Pork Board, prepared comments on a Russian risk analysis of tetracycline residues in foods. These comments provided the technical basis for the USG's position in trilateral trade negotiations with the EU and Russian Federation
- For The Center for Media and Public Affairs (CMPA) at George Mason University, reassessed a risk-cost-benefit analysis of Clean Air Act Amendment impacts, accounting for uncertainty about causation. (2011)
- For the American Petroleum Institute, analyzed the application of income distribution equity indices (such as the Atkins Index) to fair distribution of air pollution health risks. Showed that the Atkins Index and related economic indices of income inequality are not useful for health risk inequality assessment (2011)
- For the Institute of Medicine (IOM), served as a reviewer for the *IOM Draft on Scientific Standards for Studies of Modified Risk Tobacco Products*, examining the types of biomarker data and other scientific information needed to demonstrate to FDA that new products have reduced risks (2011)
- Served as expert reviewer for EPA's *Draft Microbial Risk Assessment Guideline: Pathogenic Microorganisms with Focus on Food and Water*
- For the U.S. EPA, served as a member of the Science Advisory Board (SAB) for Dioxin (2010-11)
- For the Colorado state police, analyzed the frequency and severity of car accidents by time of day, time of year, driver age and sex, driver behavior (e.g., alcohol use, use of safety devices), and types of air bags and other equipment. Developed an injury prediction model that successfully predicted risks of injury, given an accident, from less than 20% to over 70%, based on preventable causes.
- For the National Mining Association, developed a statistical critique of a proposed quantitative risk assessment for respirable coal mine dust
- For the American Chemistry Council's Crystalline Silica Panel, modeled exposure-response relationships for inflammation-mediated lung diseases and lung cancer risk caused by exposure to quartz dust and crystalline silica. Presented key results and references to Canadian regulators in August, 2010. Health Canada subsequently proposed to regulate crystalline silica as a threshold carcinogen, breaking new ground in science-based regulatory risk analysis for this compound.
- For the National Pork Board, assessed human health risks of multidrug-resistant "superbug" bacterial infections originating from pigs
- For Philip Morris International, developed a quantitative model of age-specific risks of chronic obstructive pulmonary disease (COPD) as a function of smoking history (2008-2009). Clarified the interaction of molecular biological pathways in forming positive feedback loops that trigger and sustain this disease.
- For the National Pork Board, reviewed statistical and causal analyses of infant mortality and livestock production
- For the American Chemistry Council's Crystalline Silica Panel, critically reviewed draft regulatory risk assessments of crystalline silica as a toxic substance and possible lung carcinogen (2009)
- For Alpharma and Phibro Animal Health, assessed potential human health risks from use of tetracycline drugs in food animals
- Member of National Academy of Sciences (NAS) Committee on Methodological Improvements to the Department of Homeland Security's Biological Agent Risk Analysis. (2006-8) <http://www8.nationalacademies.org/cp/CommitteeView.aspx?key=48682>
- Member of Environmental Protection Agency Science Advisory Board (EPA SAB) on Asbestos. <http://yosemite.epa.gov/sab/sabpeople.nsf/WebCommitteesSubcommittees/Asbestos%20Committee>
- Member of Institute of Medicine's (IOM) Committee on Aerospace Medicine and the Medicine of Extreme Environments (2006-8), Committee to Review NASA's Space Flight Health Standards
- For Comcast Cable, worked in partnership with North Highland consulting company to develop a customer churn predictive risk assessment model that successfully predicts which customers are most likely to drop

services and accounts – months before the drops occur, while there is still time to intervene. The model was statistically compared to existing commercial predictive models and found to be more than twice as effective in identifying high-risk customers early on.

- Delegate to First Session of the *Codex Ad Hoc Intergovernmental Task Force on Antimicrobial Resistance* held in Seoul, Republic of Korea, 23-26 October 2007.
- For Xcel Energy, worked in partnership with North Highland consulting company to develop a credit risk assessment model that predicts which customer accounts are likely to become bad debts six months or more in advance, when early intervention is still possible and profitable (2007)
- For Qwest Communications, worked in partnership with North Highland consulting company to analyze the amounts of time that employees spend managing internal communications (e-mails, meetings, conference calls, etc.) and identifying opportunities to improve internal communications efficiency (2006).
- For Philip Morris International, developed a quantitative model of age-specific risks of lung cancer as a function of smoking history. Estimated the potential reduction in lung cancer risk for smokers if cadmium were removed from tobacco products. (2005-2007)
- For Qwest Communications, worked in partnership with North Highland consulting company to quantify customer interest in and willingness to use improved web portals to manage telecommunications services (2006-7).
- For a sand and gravel company, examined the usefulness, for estimating risks and setting priorities, of aggregate exposure metrics for mixtures of asbestos and non-asbestos fibers and particles (2006)
- For a telecommunications equipment manufacturer, created a model to predict the numbers and types of equipment failures expected in future years, based on historical failure data for equipment items manufactured in different years. (2006)
- For a grass seed company, assessed the quantitative risks of gene flow from genetically modified grasses into the environment via pollen and seeds (2006). This approach was subsequently adopted by the United States District Court for the District of Columbia as a basis for risk calculations (http://www.centerforfoodsafety.org/pubs/GTBC_Doc_94_Opinion%202-5-07.pdf)
- For a homeowner's association, quantified the probable number and timing of future failures in copper pipes due to thermogalvanic corrosion. The model correctly predicted the near statistical certainty of additional pipe failures (2006).
- For the National Research Council of the National Academy of Sciences (NAS), advised on modeling potential failures and threats to spent nuclear fuel rods stored in different types of containers. This work contributed to the 2006 NAS report *Safety and Security of Commercial Spent Nuclear Fuel Storage*, <http://www.nap.edu/openbook/0309096472/html/R4.html>.
- For a large pharmaceutical company, analyzed Phase 3 clinical trial data and showed that a major drug is highly effective in reversing symptoms of a disease in patients in both the short run (within 1-2 weeks) and over a longer time frame. This statistical analysis of the time course of responses and the clusters of different response histories among patients explained several previously unresolved puzzles and made the meaning of the data clear for company statisticians and decision-makers. (2005)
- For a law firm specializing in construction defect litigation, developed an approach to sampling available homes or units to support efficient statistical inference from available data, even when some homes or units cannot be inspected. (2005)
- For Phibro Animal Health, developed a systems dynamics model of the evolution of bacterial illnesses and resistance in human and animal populations. (2005/2006)
- For the American Chemistry Council, assessed the potential human health risks associated with methyl bromide (2005).
- For Philip Morris International, developed new ways to integrate partial knowledge of causal mechanisms of lung carcinogenesis with statistical information (mainly epidemiological and molecular epidemiological data) to obtain quantitative bounds on the fraction of lung cancers that can be prevented by removing specific components of exposure and/or blocking specific causal pathways. (2004-2006)
- For the cattle industry group R-CALF, developed a value of information (VOI) model for assessing the economic value of tracking Canadian cattle in the US in light of recent BSE findings (2004).
- For the Animal Health Institute, developed a Rapid Risk Rating Technique (RRRT) to quantify the human health impacts of food-borne pathogens and animal antimicrobial uses (1Q-04)
- For Elanco Animal Health, served on an Expert Panel to develop a mathematical model of the human health benefits of decreasing microbial loads in food animals (2003-4)

- For Phibro Animal Health, developed a quantitative risk assessment of the human health risks and benefits from continued use of virginiamycin in chickens and pigs (2002-4)
- For the Animal Health Institute, served on an Expert Panel to review human health risks from animal antibiotics (2002-3); developed a farm-to-fork risk simulation model for *Campylobacter* risks (2000-2002)
- For the U.S. Environmental Protection Agency, served as an external expert reviewer for the EPA's "Perchlorate Environmental Contamination: Toxicological Review and Risk Characterization" Draft External Review Document (March, 2002).
- For the World Health Organization (WHO), served as an external expert reviewer for a Consultation on *Campylobacter* risk assessment, in Geneva (August, 2001)
- For the U.S. Food and Drug Administration (FDA), (a) Reviewed proposed approaches to antimicrobial risk assessment (1999) <http://www.fda.gov/cvm/antimicrobial/tonycox/index.htm>; and (b) Proposed a decision-analytic alternative to FDA's threshold approach for managing risks of resistant strains of pathogenic bacteria due to use of antibiotics in animals (2001). The FDA at first strongly rejected Dr. Cox's advice and testimony on how to do antimicrobial risk assessment correctly (with considerable acrimony, in the context of enrofloxacin litigation), but has subsequently had Dr. Cox visit to discuss several antimicrobial risk assessments, and has sought Dr. Cox's views on how to do better risk analysis.
- For the U.S. EPA, served as expert external reviewer and contributor to *Review of Uncertainty and Variability Analysis In IRIS for Eight Substances*. http://www.epa.gov/ncea/hlthfx_iris.htm
- Created computer simulation models (PBPK and PD) of dose-time-response relations for low-level exposures to chemical carcinogens, for Exxon Biomedical Sciences (EBSI). Developed an artificial intelligence method for improving prediction of likely human chemical carcinogens, also for EBSI.
- Created a discrete-event stochastic simulation model of the human health risks associated with Ciprofloxacin resistance in *Campylobacter jejuni* induced by use of Enrofloxacin in chickens, for the Animal Health Institute (AHI). <http://www.cvmb.colostate.edu/cveadss/schedule/SchedulePage.htm>
- Critically reviewed epidemiological studies of diesel exhaust and human lung cancer risk, for the Engine Manufacturers Association.
- For the American Petroleum Institute (API), created a computer simulation model of bone marrow and blood cell toxicity caused by cyclophosphamide, an immunosuppressive drug. Designed laboratory experiments to validate the model's predictions. Analyzed clinical and laboratory data to test model's predictive validity. Prepared a software release so that other scientists could use the model.
- Reviewed literature on air pollution and human lung cancer risks, for the American Petroleum Institute.
- Applied adaptive spatial sampling to optimize search and clean-up efforts for remediating residential properties around an abandoned hazardous waste site (for AlliedSignal)
- Reassessed human cancer risks from 1,3-butadiene using pharmacokinetic modeling to adjust for interspecies differences in internal doses of epoxybutene (for the Chemical Manufacturers Association)
- Reassessed the human leukemia risks from benzene exposure using a physiologically-based pharmacokinetic (PBPK) model to calculate internal dose (for the American Petroleum Association)
- Reviewed design of an initiation-promotion experiment for studying the potential carcinogenicity of a rubber additive, for Goodyear Tire and Rubber Company.
- Developed a general physiologically-based pharmacokinetic (PBPK) modeling software tool for rapidly developing high-quality PBPK models (with ENSR Consulting and Engineering, Inc.)
- Reviewed artificial intelligence approaches to characterizing uncertain health risks using weight of evidence, nonmonotonic, and other uncertainty analysis (for Lawrence Berkeley National Laboratory)
- Assessed potential health risks associated with occupational exposure to herbicides among roadside workers, using pharmacokinetic models, for a Fortune 100 chemical manufacturer.
- Recommendation of cleanup priorities for a large hazardous waste site in Canada
- Developed a prototype computer model for biologically based risk assessment of chemical carcinogen risks, for the Western States Petroleum Association (WSPA) and the American Petroleum Institute (API)
- Reviewed new biostatistical and "biologically based" approaches to cancer risk analysis, for the California Department of Health Services
- Reviewed regulatory history of benzene risk assessments and of biomathematical approaches to modeling leukemogenesis for the Western Oil and Gas Association and the American Petroleum Institute
- Prototype computer modeling of the AIDS epidemic (with Arthur D. Little, Inc.)

- Designed a 2-year bioassay experiment for isoprene. Analyzed and reported the resulting experimental data for a multi-client, multinational industry group coordinated by Exxon Biomedical Sciences.
- Accident risk analysis and consequence analysis of a petrochemical storage facility in California, for a California-based environmental consulting firm
- Implemented a Macintosh version of a physiologically-based pharmacokinetic (PBPK) model for benzene pharmacokinetics and total metabolism in rodents and humans, for the API
- Explored new mathematical approaches and conceptual frameworks for dealing with scientific uncertainties in biologically-based risk assessment, for the Western States Petroleum Association (WSPA)
- Created an interactive data analysis and graphics package for determining the degree of worker protection provided by different respirators, filters, and face masks (with Arthur D. Little, Inc.)
- Microeconomic and applied probability modeling of insurance company business risks for use in tax litigation (with Arthur D. Little, Inc.)
- Critically reviewed a transportation risk analysis for liquefied natural gas (LNG) operations in the St. Lawrence seaway.
- Reviewed progress since 1985 in using decision analysis for accident risk assessments.
- Implemented an experimental "intelligent" data base management system for chemical health effects data bases (with Exxon Biomedical Sciences, Inc.)
- Uncertainty analysis of PBPK modeling and risk analyses, accounting for model uncertainties and population heterogeneity, for the American Industrial Health Council.
- Developed new statistical techniques to predict cancer risks associated with mineral oils, for Mobil Oil.

CONSTRUCTION DEFECT LITIGATION SUPPORT EXPERIENCE

Dr. Cox has testified as an expert statistician in numerous construction defect cases, typically seeking to clarify the types of valid statistical inferences about risks and defects that can be drawn from limited sample data. Dr. Cox has been deposed on statistical issues in the following construction defect cases since 2012.

Note: Arizona cases have generally been in Maricopa County.

- *Acevado v. LGI Homes* (Magma Ranch) in Arizona, telephone deposition 12-19-17
- *Abbott v. Western Pacific Housing* Costa Mesa, California, telephone deposition 8/3/2015
- *Age vs. DR Horton*, telephone deposition 4/9/2015
- *Attias vs D.R. Horton Los Angeles Holding*. Deposition in Costa Mesa, California. 12/08/2016
- *Beazer v. DeLaurentis*. Deposition in Phoenix, Arizona. 9/27/2015
- *Clark vs. WCHB* (Mira Vista) Deposition 8/2/2013
- *Eagar, et al. v. TM Homes of Arizona, Inc., et al.* Deposition, Phoenix, Arizona. Telephone deposition. October 2, 2017.
- *Fireside at NorterraTriplex Condos v. Pulte Home Corporation*. Telephone deposition, Phoenix, Arizona. 11/18/2016
- *Guardian Storage*. Mediation presentation. Phoenix, Arizona. 02/03/2017
- *Hobbs vs. Elliott* Deposition in Sacramento, CA, 4/1/2013
- *Hudley v. Seeno Homes*. Deposition in California, 2/17/2016
- *Levinson v. Del Webb* testified before arbitration panel in Phoenix, Arizona, 2/5/2013
- *Montage* Deposition in Phoenix, Arizona, 8/20/2013
- *Nishimura vs. Gentry Homes*. Testified before arbiter. Honolulu, Hawaii. 4/6/2017
- *Stark (Hoag) v. Taylor Morrison (Villago; Casa Grande, AZ)*. Testified before arbiter. Phoenix, Arizona. 05/10/2017
- *Santan Crossing Professional Plaza Condominium Association v. Reliance Build, Inc. et al.* Testified at evidentiary hearing and jury trial in Arizona, 9/2018. Case No. CV2015-091851
- *Sun City Festival* Deposition, Phoenix, Arizona, telephone deposition, 6/21/2016 (Albert et al. v. Pulte Development Corp., Case No. 01-15-0002-8405, Eric Berg, Esq., Arbitrator)
- *Third Street Lofts* Deposition in San Francisco, 2/26/2013

Dr. Cox has also been deposed on statistical issues in the following additional construction defect cases since 2006.

- *Aberle v. Brookfield Homes* Deposition in Costa Mesa, California, 12/4/2012
- *Amezcuapua v. DR Horton* Deposition in Arizona, 2/2/2010
- *Amukamara/Larissa by Forecast* Deposition in Arizona, 4/10/2007
- *Arrants v. D.R. Horton* Deposition in Arizona, 8/3/2010
- *Aspen Creek* Deposition in Arizona, 5/22/07
- *D.R. Horton, Inc.-Denver vs. Canyon Creek Condominium Association, Inc.* Deposition in Colorado, 12/10/2010
- *Centercrest* Deposition in Arizona, 3/14/2006
- *Chaignot v. Beazer* Deposition in Arizona, 4/22/2010
- *Cummings v. Lenar* Deposition in Arizona, 9/21/2006
- *Dancy* Deposition in Arizona, 11/09/2006
- *Ensley et al. vs. Forecast Homes* Deposition and trial in Arizona, 11/09/2009
- *Frye Park Townhomes HOA v. Patterson Development LP* Deposition in Arizona, 4/22/2010
- *Goree v. Monterey Homes* Deposition in Arizona, 11/30/2006
- *Greenwood Estates* Deposition in Arizona, 10/11/2010
- *Kerby Estates* testified in arbitration in Phoenix, Arizona 8/16/12, 8/17/12, and 8/13/12
- *Landmark Towers* Deposition in Arizona, 7/29/11
- *Levinson v. Del Webb* testified to arbitration panel in Phoenix, Arizona, 2/5/2013
- *Magic Ranch by Richmond America* Deposition in Denver, Colorado, 12-13-11
- *Paloma Paseo* Deposition in Arizona, 10/13/2007
- *Premier* Deposition in Arizona, 3/10/2009

- *Raintree* Deposition in Arizona, 8/3/2007
- *Richards vs. Del Webb*; see *Levinson v. Del Webb*
- *Sun City Grand* testified to arbitration panel in Phoenix, Arizona, 7/22/2011
- *Terravita* Deposition in Arizona, 10/6/2006
- *Windrose East* Deposition in Arizona, 3/10/2009

TELECOMMUNICATIONS NETWORK DESIGN AND OPTIMIZATION EXPERIENCE

After leaving U S WEST Advanced Technologies, Dr. Cox has led the following projects.

- Development and delivery of packet data and wireless network planning software tools to support design, capacity planning, routing, and restoration of traffic in robust, resilient networks (2012-2014)
- Development and delivery of SONET-DWDM ring and mesh network planning software tools that allow for unspecified (any-to-any) demands and incremental planning with ring, mesh, or hybrid protection and resilience against multiple simultaneous fiber cuts or other failures (2005-2013).
- Led delivery of a hybrid ring/mesh architecture network planning software tool to Sprint (2004)
- Led delivery of a combined SONET-DWDM mesh topology design tool to Tellabs, Inc. (2003)
- Developed network planning, optimization, and risk analysis tools for a satellite company (2002)
- Created a competitive cost model for Sprint's national optical network (2002)
- Delivered a Passive Optical Network (PON) configurator tool to a PON equipment vendor (2002)
- Delivered to Sprint a port-level SONET ring planning tool. An initial version of the tool was successfully used in creating Sprint's 2002 network build plan (2001)
- Delivered to Redback Networks of a card-level SONET ring planning and optimization tool (2001). This software tool is now marketed commercially by Redback Networks.
- Delivered to Sprint a dark fiber network configuration planning tool, incorporating a proprietary genetic algorithm, that reduced costs of metro-area networks by over 50% compared to manual solutions. (2001 for fiber-only version and wireless link options)
- Delivered to Tellium a Dense Wave Division Multiplexing (DWDM) mesh topology design tool, marketed commercially as StarNet Planner. (2000)
- Delivered to Kestrel Solutions a SONET Ring Planning tool for optimizing placement of optical add-drop multiplexer components in optical ring networks. (2000)
- Created a new design for a backhaul network in Colorado that saved AT&T Wireless over 20% on their monthly backhaul charges. The new design, based on large-scale integer programming optimization, re-assigned traffic to hubs and recommended adding two new hubs to reduce system costs. (1999)
- For Sprint PCS, analyzed market demand forecasts and switching and interconnect costs. Led development of a 20-period network growth and capacity planning and optimization software model. Identified a way to save over \$1M (approximately 10%) of network capital expenses for a small city by reconfiguring the initial choice of switch modules to allow a more efficient capacity expansion growth path (1997).
- For Cox California PCS, led development of a backhaul network optimization program, solved via a new genetic algorithm, that reduced monthly backhaul costs by over 10% through more efficient of digital circuits to hubs and more economical use of SONET facilities.
- For PrimeCo Personal Communications Services, Ltd., created an optimization model of Multi-Channel Controller Card assignment and inventory management to reduce the costs of expanding network capacity through base station capacity upgrades.

PREVIOUS INDUSTRY EXPERIENCE

Before starting Cox Associates in 1986, Dr. Cox consulted in statistics, health and safety risk analysis, operations research, computer science, and econometrics for Arthur D. Little, Inc. He managed multimillion dollar AI risk analysis software development projects for the U S Air Force and led cases covering environmental fate and transport modeling of pollutants, risk analyses for transportation and processing facilities, reliability modeling of complex systems, and a variety of occupational health risk assessment, industrial hygiene, and epidemiology cases. He also served as an expert statistician and economist in support of several contract, tort, and administrative law cases and contributed to projects on USDA Standards and Grades for food products, statistical analysis of cigarette smoking data, safety of different types of protective masks, etc.

In 1984, Dr. Cox won Arthur D. Little's Presidential Award for outstanding contributions to the development of R&D planning and risk assessment methodologies for the Electric Power Research Institute (EPRI).

Prior to joining Arthur D. Little, Dr. Cox worked in societal risk analysis, risk analysis of chronic delinquency, experimental cognitive psychology of text processing, and applied statistics, at the American Institutes for Research (AIR). He co-authored a widely cited book on the effects of court sanctions on risks of chronic delinquent behavior, featured on *Good Morning America* (e.g., www.theatlantic.com/politics/crime/wilson.htm).

OTHER TECHNOLOGY EXPERTISE

Dr. Cox has testified as an expert in occupational and public health and safety risk analysis before the Mining Safety and Health Administration (MSHA) on [health risks from respirable coal dust](#) (2011); before the Subcommittee on Energy and Power of the House Energy and Commerce Committee of Congress on [health effects of air pollutants](#) (2012); before the U. S. House Science Committee Subcommittee on Environment on [Ensuring Open Science at EPA](#) (February, 2014); before the Occupational Safety and Health Administration (OSHA) on [crystalline silica risks](#) (March, 2014); and before the House Subcommittee on Energy and Power and the Subcommittee on Commerce, Manufacturing, and Trade, on [public health effects of ozone](#) (June, 2015).

Dr. Cox was U S WEST Advanced Technologies' technical expert on statistics and econometrics, artificial intelligence, decision and risk analysis, and digital signal processing technologies, emphasizing pattern recognition, spoken language understanding, and machine-learning applications. He has appeared on CNN and has been interviewed by KGNU Radio, the *Wall Street Journal*, *Newsweek*, and various newspapers about profitable business applications of these and related technologies. He frequently represented U S WEST to regulators and utility commissions in explaining the purpose, value, and accomplishments of U S WEST's work these areas. Dr. Cox has been interviewed many times about topics related to human health risks of chemicals and antibiotics. A presentation by Dr. Cox on animal antibiotic risks is described in the Science section of [The New York Times](#) (2006)

Dr. Cox has also been interviewed by *The Washington Post*, *The Denver Post*, and other national newspapers about potential [risks of BSE](#) ("mad cow" disease) in the US from imported [Canadian cattle](#). He has been interviewed and quoted on a variety of topics related to quantitative risk assessment and modeling, including [dose-response hormesis](#), infectious diseases, threats to children's health from chemicals, resistance to [animal antibiotics](#), and terrorism risk analysis.

LOUIS ANTHONY COX, JR. – PATENTS

Dr. Cox has applied risk analysis, statistical decision theory, and optimization principles to several fields in new ways. He is inventor or co-inventor of the following innovations.

Speech Synthesis Using Perceptual Linear Prediction Parameters (U.S. Pat. # 5,165,008, awarded November 17, 1992. Canadian Patent #2,074,418 awarded December 12, 1995.)

Method and System for Optimized Logistics Planning (U.S. Pat. # 5,450,317, awarded September 12, 1995, <http://www.patents.ibm.com/details?pn=US05450317>)

Method and System for Designing Least Cost Local Access Networks
(U.S. Patent #5,508,999, awarded April 16, 1996.)

Method and System for Planning and Installing Communication Networks.
(U.S. Patent #5,515,367, awarded May 7, 1996.)

Automated system and method for voice processing.
(U.S. Patent #5655006, awarded August 5, 1997.)

Method and system for identifying a corrupted speech message signal.
(U.S. Patent #5,684,921, awarded November 4, 1997.)

Method for providing a linguistically competent dialogue with a computerized service representative. (U.S. Patent #5,685,000, awarded November 4, 1997.)

[Method and system for developing network analysis and modeling with graphical objects.](#) (U.S. Patent #5,715,432, awarded February 3, 1998)

Adaptive knowledge base of complex information through interactive voice dialogue.
(U.S. Patent # 5,774,860, awarded June 30, 1998)

Method and system for linguistic command processing in a video server environment.
(U.S. Patent #5,832,439, awarded November 3, 1998)

Architecture and method for providing interactive broadband products and services using existing telephone plant. (U.S. Patent #5,857,142, awarded January 4, 1999.)
<http://www.patentstorm.us/patents/5857142.html>

Method for annotating and editing voice messages via acoustic bullet points. (U.S. Patent #5,943,402, awarded August 24th, 1999, <http://www.patents.ibm.com/details?pn=US05943402>)

Calendar system with direct and telephony networked voice control interface. (U.S. Patent #6,009,398, awarded December 28th, 1999,
http://www.patents.ibm.com/patlist?icnt=US&patent_number=6009398&x=27&y=11)

Method and system for designing a cellular communication system. (U.S. Patent #6,181,917, awarded January 30th, 2001, <http://www.delphion.com/cgi-bin/viewpat.cmd/US06181917>,
<http://www.patentstorm.us/patents/6181917.html>)

LOUIS ANTHONY COX, JR., PH.D.
SELECTED PUBLICATIONS

Books

Cox LA Jr. [*Quantitative Risk Analysis of Air Pollution Health Effects*](#). Springer, 2021.

Cox LA Jr., Popken DA, Sun RX. [*Causal Analytics for Applied Risk Analysis*](#). Springer, 2018. (Reviewed at <https://onlinelibrary.wiley.com/doi/abs/10.1111/risa.13295>)

Cox LA Jr. (Ed.) [*Breakthroughs in Decision and Risk Analysis*](#). Wiley, 2015.
(Reviewed at: <https://sm.asisonline.org/Pages/Book-Review--Breakthroughs-in-Decision-Science-and-Risk-Analysis.aspx>)

Cox, LA Jr. [*Improving Risk Analysis*](#). Springer. New York. 2013.
(Reviewed at: https://people.maths.ox.ac.uk/trefethen/wegert_review_SIREVDec13.pdf)

Cox, LA Jr. [*Risk Analysis of Complex and Uncertain Systems*](#). Springer. New York. 2009. (Reviewed at <http://pubsonline.informs.org/doi/pdf/10.1287/inte.1100.0506>.)

Cox, LA Jr. [*Quantitative Health Risk Analysis Methods: Modeling the Human Health Impacts of Antibiotics Used in Food Animals*](#). Springer. New York. 2006.

Cox, LA Jr. [*Risk Analysis: Foundations, Models and Methods*](#). Springer. New York. 2001. International Series in Operations Research & Management Science, 45.

Cox, LA Jr. and Ricci PF (eds), [*New Risks: Issues and Management*](#). Plenum Press, 1990.

Murray, C.A., and LA Cox, Jr., [*Beyond Probation: Juvenile Corrections and the Chronic Delinquent*](#). Sage Publications, Beverly Hills, CA, 1979.

Encyclopedias

[*Wiley Encyclopedia of Operations Research and Management Science*](#). 2011. Area Editor for Decision Analysis, Risk Analysis, and Game Theory sections.

[*Wiley Encyclopedia of Quantitative Risk Analysis and Assessment*](#), 2008 Area Editor, Risk Management Section.

Edited Collections

Cox T, Lowrie K. [*Preparing for, Responding to, and Recovering from Hurricane Flooding Disasters*](#). On-Line Special Issue of *Risk Analysis: An International Journal*. Wiley-Blackwell. 2018.

Aven T., Cox LA Jr. [*Simple Characterizations and Communication of Risks*](#). On-Line Special Issue of *Risk Analysis: An International Journal*. Wiley-Blackwell. 2016.

Aven T., Cox LA Jr. [*Foundations of Risk Analysis*](#). On-Line Special Issue of *Risk Analysis: An International Journal*. Wiley-Blackwell. 2015.

Greenberg, M.R., and Cox, LA Jr. [*Economics of Risk Analysis*](#). On-Line Special Issue of *Risk Analysis: An International Journal*. Wiley-Blackwell. 2014.

Haas C.N., Cox LA Jr. [*Risk Analysis of Influenza*](#). On-Line Special Issue of *Risk Analysis: An International Journal*. Wiley-Blackwell. 2013.

Cox LA Jr. and Greenberg M.R. (Eds) [*Advances in Terrorism Risk Analysis*](#). On-Line Special Issue of *Risk Analysis: An International Journal*. Wiley-Blackwell. 2011.

Journal Articles, Book Chapters, Etc.

- Cox LA Jr. (2020) [Answerable and unanswerable questions in risk analysis with open-world novelty](#). *Risk Analysis*. Nov;40(S1):2144-2177. doi: 10.1111/risa.13553.
- Cox LA Jr. (2020) [Higher line speed in young chicken slaughter establishments does not predict increased *Salmonella* contamination risks](#). *Poultry Science*. (forthcoming)
- Greenberg MR, Cox A, Bier V, Lambert J, Lowrie K, North W, Siegrist M, Wu F. (2020) [Risk analysis: Celebrating the accomplishments and embracing ongoing challenges](#). *Risk Analysis*. Nov; 40(S1):2113-2127. doi: 10.1111/risa.13487.
- Cox LA Jr, Popken DA. (2020) [Should air pollution health effects assumptions be tested? Fine particulate matter and COVID-19 mortality as an example](#). *Global Epidemiology* 2020 Sep 2:100033. doi: 10.1016/j.gloepi.2020.100033.
- Cox L.A. Jr. (2020) [Re: "Causal effects of air pollution on mortality rate in Massachusetts."](#) Letter to the Editor. *American Journal of Epidemiology*. September, 2020
- Cox LA Jr. (2020) [Using Bayesian networks to clarify interpretation of exposure-response regression coefficients: blood lead-mortality association as an example](#). *Critical Reviews in Toxicology* 2020 Sep 9:1-12. doi: 10.1080/10408444.2020.1787329.
- Cox LA Jr. (2020). [Thinking better: Six recent books on natural, artificial, and social intelligence](#). *Risk Analysis*. 40(6):1302-19.
- Cox LA Jr. (2020) [Implications of nonlinearity, confounding, and interactions for estimating exposure concentration-response functions in quantitative risk analysis](#). *Environmental Research*;187:109638.
- Cox LA Jr, Goodman JE, Engel AM. (2020) [Chronic inflammation, adverse outcome pathways, and risk assessment: A diagrammatic exposition](#). *Regul Toxicol Pharmacol.*; 114:104663. doi:10.1016/j.yrtph.2020.104663
- Cox LA Jr. (2020) [Target Sites: Cardiovascular](#). Chapter 51 in P. Wexler et al. (Eds.) *Information Resources in Toxicology: 5th Edition*. Elsevier. Academic Press.
- Cox LA Jr. (2020) [Target Sites: Hematopoietic](#). Chapter 54 in P. Wexler et al. (Eds.) *Information Resources in Toxicology: 5th Edition*. Elsevier. Academic Press.
- Cox LA Jr, Popken DA, Sun J, Liao XP, Fang LX. (2020) [Quantifying human health risks from virginiamycin use in food animals in China](#). *Risk Analysis*. 40(6); 1244-1257. 10.1111/risa.13466. doi:10.1111/risa.13466

- Maldonado G, Cox LA Jr. (2020). [Causal reasoning in epidemiology: Philosophy and logic](https://doi.org/10.1016/j.gloepi.2020.100020). *Global Epidemiology*. [https://doi.org/ 10.1016/j.gloepi.2020.100020](https://doi.org/10.1016/j.gloepi.2020.100020)
- Cox LA, Jr. (2020) [Nonlinear dose-time-response functions and health-protective exposure limits for inflammation-mediated diseases](https://doi.org/10.1016/j.envres.2019.109026). *Environmental Research* 182, March 2020. <https://doi.org/10.1016/j.envres.2019.109026>
- Cox LA, Jr. (2020) [Dose-response modeling of NLRP3 inflammasome-mediated diseases: Asbestos, lung cancer, and malignant mesothelioma as examples](https://doi.org/10.1080/10408444.2019.1692779). *Critical Reviews in Toxicology*. 2020 Jan 6:1-22. doi: 10.1080/10408444.2019.1692779.
- Cox LA, Jr. (2020). [Book Review of *On Grand Strategy*](https://doi.org/10.1080/00137175.2020.1791111). *Risk Analysis* 40(20): 435-438.
- Cox LA Jr. [Ambient air pollution and mortality in 652 cities](https://doi.org/10.1056/NEJMc1913285). Letter to the Editor. *N Engl J Med*. 2019 Nov 21;381(21):2074. doi: 10.1056/NEJMc1913285.
- Cox LA.(2019) [Should health risks of air pollution be studied scientifically?](https://doi.org/10.1016/j.gloepi.2019.100015) *Global Epidemiology* 1 (Nov.) 2019. <https://doi.org/10.1016/j.gloepi.2019.100015>
- Cox LA, Simon TW, Becker RA. (2019) [The Predictive Analytics Toolkit \(PAT\): User-friendly predictive analytics for advancing new approach methodologies \(NAMs\)](https://doi.org/10.1016/j.comtox.2019.100004). *Computational Toxicology* 12 (Nov 2019).
- Cox LA Jr. (2019) [Shapes and definitions of exposure-response curves: A comment on “A matrix for bridging the epidemiology and risk assessment gap.”](https://doi.org/10.1016/j.gloepi.2019.100015) *Global Epidemiology*. 1 (Nov.) 2019.
- Cox LA. [Book Review of *The Model Thinker: What You Need to Know to Make Data Work for You*](https://doi.org/10.1080/00137175.2019.1691111). *Risk Analysis* 39(12): 2786-2789.
- Cox, T. (2019). [Muddling-through and deep learning for managing large-scale uncertain risks](https://doi.org/10.1017/bca.2019.17). *Journal of Benefit-Cost Analysis*, 10(2), 226-250. doi:10.1017/bca.2019.17
- Cox LA Jr. (2019) [Improving causal determination](https://doi.org/10.1016/j.gloepi.2019.100004). *Global Epidemiology*. Nov. 1(1). <https://doi.org/10.1016/j.gloepi.2019.100004>
- Cox T. (2019) [Learning causal graph models from data](https://doi.org/10.1002/9781118445112.stat08149). Wiley StatsRef: Statistics Reference Online. DOI: 10.1002/9781118445112.stat08149
- Cox LA. (2019) [Causal prediction and forecasting](https://doi.org/10.1002/9781118445112.stat08147). Wiley StatsRef: Statistics Reference Online. DOI: 10.1002/9781118445112.stat08147
- Cox LA. (2019) [Causal graph models for predictive and prescriptive analytics](https://doi.org/10.1002/9781118445112.stat08146). Wiley StatsRef: Statistics Reference Online. DOI: 10.1002/9781118445112.stat08146

- Cox LA Jr. (2019) [Risk analysis implications of dose-response thresholds for NLRP3 inflammasome-mediated diseases: Respirable crystalline silica and lung cancer as an example](https://doi.org/10.1177/1559325819836900). *Dose Response*. <https://doi.org/10.1177/1559325819836900>
- Cox LA Jr. (2019). [Communicating more clearly about deaths caused by air pollution](https://doi.org/10.1016/j.gloepi.2019.100003). *Global Epidemiology*. <https://doi.org/10.1016/j.gloepi.2019.100003>
- Cox LA. Book review: [Behaving Better – Behave: The Biology of Humans at Our Best and Worst](#) by Robert M. Sapolsky, Penguin Press, 2017, and [12 Rules for Life: An Antidote to Chaos](#) by Jordan B. Peterson, Random House Canada, 2018. *Risk Analysis*. 2019 39(2):505-508 DOI: 10.1111/risa.13266
- Cox LA Jr. [Modernizing the Bradford Hill criteria for assessing causal relationships in observational data](#). *Critical Reviews in Toxicology*. 2018 Nov 15:1-31. doi: 10.1080/10408444.2018.1518404.
- Cox LAT. [Book Review: Ten Great Ideas About Chance](#) by Persi Diaconis and Brian Skyrms (Princeton University Press, 2018). *Risk Analysis*. 2018 Nov; 38(11): 2497-2501.
- Cox LAT Jr. [Socioeconomic and particulate air pollution correlates of heart disease risk](#). *Environ Res*. 2018 Nov;167:386-392. doi: 10.1016/j.envres.2018.07.023.
- Cox LA. [Effects of exposure estimation errors on estimated exposure-response relations for PM2.5](#). *Environ Res*. 2018 Jul;164:636-646. doi: 10.1016/j.envres.2018.03.038.
- Cox LAT Jr. [Biological mechanisms of non-linear dose-response for respirable mineral fibers](#). *Toxicol Appl Pharmacol*. 2018 Jun 19. pii: S0041-008X(18)30282-5. doi: 10.1016/j.taap.2018.06.016.
- Cox, LA Jr. [Air pollution and mortality in the Medicare population](#). *JAMA*. 2018 May 22; 319(20):2134-2135. doi: 10.1001/jama.2018.3923. Letter to the Editor.
- Cox LA Jr. [RE: "Best practices for gauging evidence of causality in air pollution epidemiology"](#). *Am J Epidemiol*. 2018 Mar 23. doi: 10.1093/aje/kwy034. Letter to the Editor.
- Cox T. [Uncertain causation, regulation, and the courts](https://doi.org/10.1086/697315). *Supreme Court Economic Review*. 2016 24(1): 197-254. <https://doi.org/10.1086/697315> (Published in 2018)
- Cox LA Jr. Bier VM. Probabilistic Risk Analysis. Chapter 1 in VM Bier (Ed), [Risk in Extreme Environments: Preparing, Avoiding, Mitigating, Managing](#). 2018.
- Cox LA Jr. [Quantifying and Reducing Uncertainty about Causality in Public Health and Safety Risk Analysis](#). In Ghenam R et al. (Eds), [Springer Handbook of Uncertainty Quantification](#). 2017.

Becker RA et al. [How well can carcinogenicity be predicted by high throughput “characteristics of carcinogens” mechanistic data?](#) *Regulatory Toxicology and Pharmacology* 90C (2017) pp. 185-196

Cox LA, Liu X, Shi L, Zu K, Goodman J. [Applying nonparametric methods to analyses of short-term fine particulate matter exposure and hospital admissions for cardiovascular diseases among older adults.](#) *Int. J. Environ. Res. Public Health* 2017, 14(9), 1051; doi:[10.3390/ijerph14091051](#)

Cox LA, Schnatter AR, Boogaard PJ, Banton M, Ketelslegers HB. [Non-parametric estimation of low-concentration benzene metabolism.](#) *Chemo-Biological Interactions*. Sep. 2017.

Cox T. [Review of *Misbehaving: The Making of Behavioral Economics* by Richard Thaler.](#) *Risk Analysis*. 2017 Sep; 37(9): 1796-1798.

Cox LA Jr. [Do causal concentration-response functions exist? A critical review of associational and causal relations between fine particulate matter and mortality.](#) *Critical Reviews in Toxicology*. 2017 Aug;47(7):603-631.

Dudley S. et al. [Consumer’s guide to regulatory impact analysis: ten tips for being an informed policymaker.](#) *Journal of Benefit-Cost Analysis*. 2017 Jul.

Cox T. [Review of *Algorithms to Live By: The Computer Science of Human Decisions* by Brian Christian and Tom Griffiths.](#) *Risk Analysis*. 2017 June; 37(6): 1201-1207.

Cox LA Jr. [Socioeconomic and air pollution correlates of adult asthma, heart attack, and stroke risks in the United States, 2010–2013.](#) *Environmental Research*. 2017 May;155:92-107.

Cox T. [Review of *Superforecasting: The Art and Science of Prediction* by Philip E. Tetlock and Dan Gardner.](#) (2015). New York: Broadway Books. *Risk Analysis*. 2017 Feb;37(2): 396-397.

Cox LA Jr. [Concentration-response associations used to estimate public health benefits of less pollution are not valid causal predictive models.](#) Letter to the Editor. *Ann Am Thorac Soc*. 2016 Dec;13(12):2280-2281.

Cox LA Jr. [How accurately and consistently do laboratories measure workplace concentrations of respirable crystalline silica?](#) *Regul Toxicol Pharmacol*. 2016 Nov;81:268-274.

Cox JA Jr., Cox ED. (2016) Intergenerational Justice in Protective and Resilience Investments with Uncertain Future Preferences and Resources. Chapter 12 in P. Gardoni,

C. Murphy, and A. Rowell (Eds). *Risk Analysis of Natural Hazards: Interdisciplinary Challenges and Integrated Solutions*. Springer. New York, New York.

Lee RJ, Van Orden DR, Cox LA Jr., Arlauckas S, Kautz RJ. [Impact of muffle furnace preparation on the results of crystalline silica analysis](#). *Regul Toxicol Pharmacol*. 2016 Oct; 80:164-72.

Cox LA Jr. [Rethinking the meaning of concentration–response functions and the estimated burden of adverse health effects attributed to exposure concentrations](#). *Risk Analysis*. 2016 Sep;36(9):1770-1779

Cox LA Jr. Re: “[Unconventional natural gas development and birth outcomes in Pennsylvania, USA](#).” Letter to the Editor. *Epidemiology*. 2016 Nov;27(6):e37.

Cox LA, Popken DA, Kaplan AM, Plunkett LM, Becker RA. [How well can *in vitro* data predict *in vivo* effects of chemicals? Rodent carcinogenicity as a case study](#). *Regulatory Toxicology and Pharmacology*. 2016 Jun;77:54-64.

Cox LA, Jr. and Goodman JE. Re: “[Estimating causal associations of fine particles with daily deaths in Boston](#).” Letter to the Editor. *American Journal of Epidemiology*. 2016 Mar 15;183(6):593.

Aven A, Cox LA Jr. [National and global risk studies: How can the field of risk analysis contribute?](#) *Risk Analysis*. 2016Feb; 36(2): 186-190.

Cox LA Jr. [Overcoming learning-aversion in evaluating and managing uncertain risks](#). *Risk Analysis*. 2015 Oct; 35(10)

Popken DA, Cox LA Jr. [Quantifying human health risks caused by Toxoplasmosis from open system production of swine](#). *Human and Ecological Risk Assessment*. 2015 Oct 3; 21(7): 1717-1735

Cox LA Jr, Van Orden DR, Lee RJ, Arlauckas SM, Kautz RA, Warzel AL, Bailey KF, Ranpuria AK. [How reliable are crystalline silica dust concentration measurements?](#) *Regulatory Toxicology and Pharmacology* 2015 Jul 6;73(1):126-136.

Cox LA Jr. 2015. Food microbial safety and animal antibiotics. Chapter 15 in Chen C-Y, Yan X, Jackson CR (Eds). *Antimicrobial Resistance and Food Safety: Methods and Techniques*. Elsevier, New York.

Cox, LA Jr, Popken DA. [Has reducing PM2.5 and ozone caused reduced mortality rates in the United States?](#) *Annals of Epidemiology*. 2015 Mar;25(3):162-73.

Weill D, Chatfield E, Cox A Jr, Gamble J, Gibbs G, Wylie A. [Letter to JOEH Editor](#) - In reference to Hwang at al. "The Relationship Between Various Exposure Metrics for

Elongate Mineral Particles (EMP) in the Taconite Mining and Processing Industry"
JOEH,11:613-624, 2014.*J Occup Environ Hyg.* 2015 Jan 23:0.

Cox LA Jr, Popken DA. [Quantitative assessment of human MRSA risks from swine.](#)*Risk Analysis.* 2014 Sep;34(9):1639-50

Cox LA, Popken D, Marty MS, Rowlands JC, Patlewicz G, Goyak KO, Becker RA. [Developing scientific confidence in HTS-derived prediction models: Lessons learned from an endocrine case study.](#)*Regulatory Toxicology and Pharmacology.* 2014 Aug; 69(3):443-50.(Winner, "Best Published Papers in 2014 Demonstrating an Application of Risk Assessment: Top Five Papers" award, Society of Toxicology, Risk Assessment Specialty Section, March, 2015)

Paté-Cornell E, Cox LA Jr. [Improving risk management: from lame excuses to principled practice.](#)*Risk Analysis.* 2014 Jul;34(7):1228-39.

Cox, LA Jr. [Caveats for causal interpretations of linear regression coefficients for fine particulate \(PM2.5\) air pollution health effects.](#) *Risk Analysis.* 2013 Dec;33(12):2111-25.

Cox LA Jr. [Improving causal inference in risk analysis.](#) *Risk Analysis.* 2013 Oct;33(10): 1762-71.

Cox LA Jr. [Decision and risk psychology: Seven recent books.](#) *Risk Analysis.* 2013 Sep; 33(9): 1749-57.

Linkov I, Wood MD, Ditmer R, Cox A, Ross R. [Collective risk management: insights and opportunities for DoD decision-makers.](#) *Environment Systems and Decisions.* 2013 Sep; 33(3): 335-340.

Cox LA Jr. Popken DA, Ricci PF. [Warmer is healthier: Effects on mortality rates of changes in average fine particulate matter \(PM2.5\) concentrations and temperatures in 100 U.S. cities.](#) *Regulatory Toxicology and Pharmacology.* 2013 Aug;66(3):336-46

Alderson D, Brown G, Carlyle M, Cox LA Jr. [Sometimes there is no "most-vital" arc: Assessing and improving the operational resilience of systems.](#) *Military Operations Research.* 2013 18(1):21-37

Cox LA Jr., Popken DA, Berman W. [Causal vs. spurious spatial exposure-response associations in health risk analysis.](#) *Critical Reviews in Toxicology* 2013. Jan; 43(S1):26-38

Berman W, Cox LA, Popken DA. [A cautionary tale: The characteristics of two-dimensional distributions and their effects on epidemiological studies employing an ecological design.](#) *Critical Reviews in Toxicology* 2013. Jan; 43(S1):1-25

Berman W, Cox LA, Popken DA. [Resisting the urge to act on random patterns: A reply to Schenker et al.](#) *Critical Reviews in Toxicology* 2013 Aug; 43(7): 609-10

Cox LA Jr. [Community resilience and decision theory challenges for catastrophic events.](#) *Risk Analysis*. 2012 Nov;32(11):1919-34.

Cox LA Jr. [Confronting deep uncertainties in risk analysis.](#) *Risk Analysis* 2012 Oct;32(10):1607-29.

Cox LA Jr. [Evaluating and improving risk formulas for allocating limited budgets to expensive risk-reduction opportunities.](#) *Risk Analysis*. 2012 Jul;32(7):1244-52.

Cox LA Jr. [Book Review. Poverty and Risk: A Review of *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty* by Abhijit V. Banerjee and Esther Durlauf.](#) *Risk Analysis*. 2012 June;32(6):1104-1108

Greenberg M, Haas C, Cox LA Jr, Lowrie K, McComas K, North W. [Ten most important accomplishments in risk analysis, 1980-2010.](#) *Risk Analysis* 2012 May;32(5):771-81.

Cox LA Jr. [Reassessing the human health benefits from cleaner air.](#) *Risk Analysis* 2012 May;32(5):816-29

Cox LA Jr. [Miscommunicating risk, uncertainty, and causation: Fine particulate air pollution and mortality risk as an example.](#) *Risk Analysis* 2012 May;32(5):765-7.

Cox LA Jr. [Why frequency is not well defined for engineering systems with nonexponential failure times.](#) *Risk Analysis* 2012. Mar;32(3):368-72.

Cox LA Jr. [Why income inequality indexes do not apply to health risks.](#) *Risk Analysis* 2012. Feb; 32(2): 192-196

Cox LA Jr. [Dose-response thresholds for progressive diseases.](#) *Dose-Response*. 2012;10(2):233-50.

Cox LA Jr. [Clarifying types of uncertainty: When are models accurate, and uncertainties small?](#) *Risk Analysis*. 2011 Oct;31(10):1530-3.

Cox LA Jr. [An exposure-response threshold for lung diseases and lung cancer caused by crystalline silica.](#) *Risk Analysis*. 2011 Oct;31(10):1543-60.

Cox LA Jr. Foundations of decision theory. *Wiley Encyclopedia of Operations Research and Management Science*. 2011
<http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470400633.html>

Cox LA Jr. [Managing R&D and risky projects.](#) *Wiley Encyclopedia of Operations Research and Management Science*. 2011

<http://www.wiley.com/WileyCDA/Section/id-397132.html>

Cox LA Jr., WA Huber. [Why risk is not variance](#). *Wiley Encyclopedia of Operations Research and Management Science*.2011

Mathers J, Flick S, Cox LA Jr. [Longer-duration uses of tetracyclines and penicillins in U.S. food-producing animals: Indications and microbiologic effects](#). *Environment International*. 2011 Jul;37(5):991-1004

Cox LA Jr. [A causal model of chronic obstructive pulmonary disease \(COPD\) risk](#). *Risk Analysis*.2011 Jan;31(1):38-62. (Winner, 2011 Best Paper Award, Society for Risk Analysis) http://www.sra.org/journal_best_paper_awards.php

Cox LA Jr. Regression versus causation, revisited.*RiskAnalysis*. 2010 April; 30(4):535-540.

[Cox LA Jr., Popken DA](#). Assessing potential human health hazards and benefits from subtherapeuticantibiotics in the United States: Tetracyclines as a case study. *Risk Analysis*. 2010 March; 30(3):432-455.

Cox T. More general conditions under which mean-variance decision making is unjustified. *Risk Analysis*. 2010 March; 30(3):329.

Cox LA Jr. [Why reduced-form regression models of health effects versus exposures should not replace QRA: livestock production and infant mortality as an example](#).*Risk Analysis*.2009 Dec;29(12):1664-71.

Cox LA Jr. Game theory and risk analysis. *Risk Analysis*. 2009 Aug;29(8):1062 -8.

Cox LA Jr.[What's wrong with hazard-ranking systems? An expository note](#).*Risk Analysis*. 2009 Jul;29(7):940-8.

[Cox LA Jr., Popken DA, Mathers J](#). Human health risk assessment of penicillin / aminopenicillin resistance in enterococci due to penicillin use in food animals.*Risk Analysis*.2009 Jun;29(6):796-805

Cox LA Jr.[A mathematical model of protease-antiprotease homeostasis failure in chronic obstructive pulmonary disease \(COPD\)](#).*Risk Analysis*2009 Apr;29(4):576-86.

Cox LA Jr.[Improving risk-based decision making for terrorism applications](#). *Risk Analysis* 2009 March;29(3):336-341.

Cox Jr LA. Hormesis without cell killing. *Risk Analysis* 2009 March 29(3):393-400.
<http://www.ncbi.nlm.nih.gov/pubmed/18793280>

Cox LA Jr. Could removing arsenic from tobacco smoke significantly reduce smoker risks of lung cancer? *Risk Analysis* 2009 Jan; 29(1):3-17.

www3.interscience.wiley.com/journal/121502311/abstract?CRETRY=1&SRETRY=0

Cox LA Jr. Target Sites – Cardiovascular. In P. Wexler *et al.*(Eds.) *Information Resources in Toxicology, Fourth Edition*. Elsevier Inc. New York. 2009

<http://toxipedia.org/display/toxipedia/Information+Resources+in+Toxicology>

Cox LA Jr. Target Sites – Hematopoiesis. In P. Wexler *et al.*(Eds.) *Information Resources in Toxicology, Fourth Edition*. Elsevier Inc. New York. 2009

<http://toxipedia.org/display/toxipedia/Information+Resources+in+Toxicology>

Bier VM, Cox LA Jr, Azaiez MN. Why Both Game Theory and Reliability Theory are Important in Defending Infrastructure Against Intelligent Attacks. Chapter 1 in Bier VM and Azaiez MN (Eds). *Game Theoretic Risk Analysis of Security Threats*. Springer, New York. 2009. www.springer.com/engineering/production+eng/book/978-0-387-87766-2

Cox LA Jr., Brown GG, Pollock SM. When is uncertainty about uncertainty worth characterizing? *Interfaces* 2008 Nov.-Dec. 38(6):465-468.

<http://interfaces.journal.informs.org/cgi/content/abstract/38/6/465>

Cox LA Jr. [Some limitations of "Risk = Threat x Vulnerability x Consequence" for risk analysis of terrorist attacks.](#) *Risk Analysis* 2008. Dec. 28(6):1749-1762.

Cox Jr LA, Popken DA. Overcoming confirmation bias in causal attribution: A case study of antibiotic resistance risks. *Risk Analysis* 2008 Oct; 28(5):1155-1171.

Cox LA Jr. R&D Planning and Risk Management. [Wiley Encyclopedia of Quantitative Risk Analysis and Assessment](#), 2008.

Cox LA Jr. Managing Foodborne Risks. [Wiley Encyclopedia of Quantitative Risk Analysis and Assessment](#), 2008.

Cox LA Jr, Greenberg MR, Bostrom A, Haas C, Haimes Y, Landis W, Lowrie KW, Moolgavkar S, North W. What is the scope of the journal *Risk Analysis*? (Invited Editorial). *Risk Analysis* 2008 Oct; 28(5):1135-1136.

Cox Jr LA. Why risk is not variance: An expository note. *Risk Analysis* 2008 Aug 28(4):925-928. <http://www.ncbi.nlm.nih.gov/pubmed/18554271>

Cox LA Jr, Ricci PF. Causal regulations vs. political will: Why human zoonotic infections increase despite precautionary bans on animal antibiotics. *Environment International* 2008 May;34(4):459-75

Cox LA Jr. What's wrong with risk matrices? *Risk Analysis* 2008 Apr;28(2):497-512.

[Cox LA Jr, Huber WA.](#) Symmetry, identifiability, and prediction uncertainties in multistage clonal expansion (MSCE) models of carcinogenesis. *Risk Analysis* 2007 Dec;27(6):1441-53.

Cox LA Jr. Health Risk Analysis for Risk Management Decision-Making. Chapter 17 in [Advances in Decision Analysis](#). W. Edwards, R. Miles, D. von Winterfeldt, Eds. Cambridge University Press. 2007.
<http://www.cambridge.org/us/catalogue/catalogue.asp?isbn=0521682304>

Bier V, Cox LA Jr. Probabilistic Risk Analysis for Engineered Systems. Chapter 15 in [Advances in Decision Analysis](#). W. Edwards, R. Miles, D. von Winterfeldt, Eds.. Cambridge University Press. 2007.
<http://www.cambridge.org/us/catalogue/catalogue.asp?isbn=0521682304>

[Cox LA Jr, Popken DA.](#) Some limitations of aggregate exposure metrics. *Risk Analysis* 2007 Apr;27(2):439-45.

[Cox LA Jr.](#) Does concern-driven risk management provide a viable alternative to QRA? *Risk Analysis* 2007 Feb;27(1):27-43.

[Cox LA Jr., Popken DA, Carnevale R.](#) Quantifying human health risks from animal antimicrobials. *Interfaces* 2007 Jan-Feb; 37(1): 22-38.
<http://interfaces.journal.informs.org/cgi/content/abstract/37/1/22>

[Singer RS, Cox LA Jr, Dickson JS, Hurd HS, Phillips I, Miller GY.](#) Modeling the relationship between food animal health and human foodborne illness. *Preventive Veterinary Medicine*. 2007 Jan 29.

[Cox LA Jr.](#) Quantifying potential health impacts of cadmium in cigarettes on smoker risk of lung cancer: A portfolio-of-mechanisms approach. *Risk Analysis* 2006 Dec;26(6):1581-99.

[Cox LA Jr, Sanders E.](#) Estimating preventable fractions of disease caused by a specified biological mechanism: PAHs in smoking lung cancers as an example. *Risk Analysis* 2006 August 6(4):881-892. (Winner, "The Outstanding Published Paper in 2006 Demonstrating an Application of Risk Assessment", awarded by the Risk Assessment Specialty Section of the Society of Toxicology, March, 2007)

[Cox LA.](#) Detecting causal nonlinear exposure-response relations in epidemiological data. *Dose Response*. 2006 Aug 19;4(2):119-32.
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2477674>

[Cox LA.](#) A model of cytotoxic dose-response nonlinearities arising from adaptive cell inventory management in tissues. *Dose Response*. 2006 May 22;3(4):491-507.
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2477194>

[Cox LA](#). Universality of J-Shaped and U-Shaped dose-response relations as emergent properties of stochastic transition systems. *Dose-Response* 2006 May 1; 3(3): 353–368.

[Cox LA Jr](#). Enrofloxacin in poultry and human health [letter]. *Emerging Infectious Diseases*. 2006 May;12(5): 872-3.

[Cox LA Jr](#). Routine use of antibiotics in food animals increases protein production and reduces prices [letter]. *Clinical Infectious Diseases* 2006 Apr 1;42(7):1053.

[Cox T](#). Potential Human Health Impacts of Banning Antibiotics Used in Food Animals: A Case Study of Virginiamycin. Chapter in D. Barug, J. de Jong, A.K. Kies and M.W.A. Verstegen (Eds). *Antimicrobial Growth Promoters Where Do We Go From Here?* Wageningen Academic Publishers. The Netherlands. 2006.

[Cox LA Jr, Popken DA](#). Quantifying potential human health impacts of animal antibiotic use: Enrofloxacin and macrolides in chickens. *Risk Analysis*. 2006 Feb;26(1):135-46.

[Cox LA Jr](#). Animal antibiotic use and human health: No expert judgment is needed to determine that reducing cases reduces risk. *Risk Analysis*. 2006 Feb;26(1):157-61.

[Ricci PF, Cox LA Jr, MacDonald TR](#). Science-policy in environmental and health risk assessment: If we cannot do without, can we do better? *Hum Exp Toxicol*. 2006 Jan;25(1):29-43.

[Cox LA Jr](#). Some limitations of a proposed linear model for antimicrobial risk management. *Risk Analysis*. 2005 Dec; 25(6): 1327-1332.

[Cox LA Jr, Phillips I](#). *Salmonella* serotype typhimurium, not antimicrobial resistance *per se*, is associated with excess bloodstream infections and hospitalizations. Letter to the Editor, *Journal of Infectious Diseases*. 2005 Dec 1; 192(1): 2029-2030. www.journals.uchicago.edu/cgi-bin/resolve?id=doi:10.1086/498044

Cox LA, Babayev D. Optimization under uncertainty via random sampling of scenarios II. *Applied and Computational Mathematics*, 2005;4(1): 20-28

Cox LA Jr., VanSickle JJ, Popken DA, Sahu R. Optimal tracking and testing of US and Canadian herds for BSE: A Value-of-Information (VoI) approach. *Risk Analysis*, 2005; 25(4): 827-840. <http://www.blackwell-synergy.com/doi/abs/10.1111/j.1539-6924.2005.00648.x>

Ricci PF, Cox LA Jr, MacDonald TR. First do no harm: Can regulatory science-policy in risk assessment be deleterious to health? Biological Effects of Low Level Exposures (BELLE) Newsletter, 2005 July;13(10):26-37

Cox, LA Jr. Precaution and consequences. Letter to the Editor. *PLoS Medicine*. July, 2005. <http://medicine.plosjournals.org/perlserv/?request=read-response&doi=10.1371/journal.pmed.0020232>

Cox LA Jr. Parkinsonism and welding: testing for statistical vs. causal associations. Letter to the Editor. *Neurology*. June 29, 2005. <http://www.neurology.org/cgi/eletters/64/2/230>

[Cox LA Jr, Babayev D, Huber W](#). Some limitations of qualitative risk rating systems. *Risk Analysis*, 2005 Jun;25(3):651-62

[Cox LA Jr, Copeland D, Vaughn M](#). Antimicrobial resistance in *Campylobacter*. Letter to the Editor. *Emerging Infectious Diseases*, 2005 June; 11(6)
http://www.cdc.gov/ncidod/EID/vol11no06/04-0689_05-0266.htm

Ricci PF, MacDonald TR, Cox LA Jr. Precautionary decision making: Analysis and results. *Int. J. Risk Assessment and Management*, 2005 6(2-4):237-270.

[Cox LA Jr](#). Potential human health benefits of antibiotics used in food animals: A case study of virginiamycin. *Environment International*, 2005 May;31(4): 549-563.

[Cox LA Jr, Copeland D, Vaughn M](#). Ciprofloxacin resistance does not affect duration of domestically acquired campylobacteriosis. Letter to the Editor. *Journal of Infectious Diseases*. 2005 May 1; 191(1): 1565-6.
<http://www.journals.uchicago.edu/JID/journal/contents/v191n9.html>

[Cox LA Jr, Ricci PF](#). Causation in risk assessment and management: Models, inference, biases, and a microbial risk-benefit case study. *Environ Int*. 2005 Apr;31(3):377-97.

Popken, DA and LA Cox. A simulation-optimization approach to air warfare planning. *Journal of Defense Modeling and Simulation*, 1(3), 127-140. December, 2004.
<http://www.scs.org/pubs/jdms/vol1number3/Popken.pdf>

[Ricci PF, Cox LA Jr, MacDonald TR](#). Precautionary principles: a jurisdiction-free framework for decision-making under risk. *Human Experimental Toxicology* 2004 Dec;23(12):579-600. Previously published in *BELLE (Biological Effects of Low Level Exposures) Newsletter*. 2004 Sep;12(2):13-33.
http://www.belleonline.com/BELLE_09_04F.pdf

Cox LA, VanSickle JJ, Popken DA, Sahu R. Tracking and testing of US and Canadian cattle herds for BSE: A risk management dilemma. *CHOICES: The Magazine of Food, Farm, and Resource Issues*. 4th Quarter, 2004, 51-4.
<http://www.choicesmagazine.org/2004-4/grabbag/2004-4-12.htm>

[Cox LA Jr](#). Domestically acquired fluoroquinolone-resistant *Campylobacter* infection. Letter to the Editor. *Clin Infect Dis*. 2004 Nov 1;39(9):1399-1400.

[Cox LA Jr, Popken DA](#). Bayesian Monte Carlo uncertainty analysis of human health risks from animal antimicrobial use in a dynamic model of emerging resistance. *Risk*

Analysis, 24, 5, October 2004. 1153-1164. (Winner, Society for Risk Analysis, 2003 Best Paper Award.)

[Cox LA Jr.](#) *Campylobacter* risk data out of date? Letter to the Editor. *Comprehensive Reviews in Food Science and Food Safety*. 3, October, 2004.

[Cox LA Jr, Popken DA.](#) Quantifying human health risks from virginiamycin used in chickens. *Risk Analysis* 24, 1. February, 2004. 271-88. (Finalist, Society for Risk Analysis, 2002 Best Paper Award.)

[Phillips I, Casewell M, Cox T, De Groot B, Friis C, Jones R, Nightingale C, Preston R, Waddell J.](#) Does the use of antibiotics in food animals pose a risk to human health? A critical review of published data. *J Antimicrob Chemother.* 2004 Jan;53(1):28-52.

Bafundo KW, Cox LA, Jr., Bywater R, 2003. Causal animal antibiotic-foodborne illness relationship explored. *Feedstuffs*. June 30, 2003. p. 8 (Invited Letter to the Editor).

[Cox LA Jr.](#) Mortality associated with foodborne bacterial gastrointestinal infections: Statistical method is worth examining. *BMJ*. 2003 Jun 7;326(7401):1265. Rapid Response Letter. <http://bmj.com/cgi/eletters/326/7385/357#29767>

[Lipscomb JC, Teuschler LK, Swartout J, Popken D, Cox T, Kedderis GL.](#) The impact of Cytochrome P450 2E1-dependent metabolic variance on a risk-relevant pharmacokinetic outcome in humans. *Risk Analysis* 2003 Dec;23(6):1221-38.

[Ricci PF, Rice D, Ziagos J, Cox LA.](#) Precaution, uncertainty and causation in environmental decisions. *Environ Int.* 2003 Apr;29(1):1-19.

Cox LA 2002. Reexamining the causes of campylobacteriosis. *International Journal of Infectious Diseases*. Dec. 6. Supplement 3:S26-S36

Cox LA, Popken, DA, 2002. Quantifying human health impacts of animal antibiotics: Risk management alternatives for enrofloxacin. (Winner, Society for Risk Analysis Best Paper Award, December, 2002.)

Byrd DM, Cox, JA, Jr., Wilson, JM, 2001. Tracking antibiotics up the food chain. Letter to the Editor, *Science*, 291, 30 March, 2001, p. 2550.
<http://www.pmac.net/AM/tracking.html>

Cox, L.A., Jr., J.R. Sanchez, and Lu, L., 2001. Cost savings from optimized packing and grooming of optical circuits: Mesh vs. ring comparisons. *Optical Networks Magazine*, May-June, 72-90.

Cox, L.A. Jr., 2001. Forecasting demand for telecommunications products from cross-sectional data. *Telecommunications Systems*, 16:3, 439-456.

Cox, L.A., Jr., 2000. A biomathematical model of cyclophosphamide hematotoxicity. *Journal of Toxicology and Environmental Health, Part A*, 61:5-6, 501-510 (pp. 501-552 with discussions). November, 2000.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11086959&dopt=Abstract

Cox, L.A., Jr., Chiu, W.A., Hassenzahl, D.M., Kammen, D.M., 2000. Low dose responses: Response to Wilson. *Risk Analysis*, 20, 3, June, 2000.

Cox, L.A., Jr., and J.R. Sanchez, 2000. Designing least-cost survivable wireless backhaul networks. *Journal of Heuristics*, 6, 525-540.

[Chiu, S.Y., L.A. Cox, Jr., X. Sun, 1999.](#) Optimal sequential inspections of reliability systems subject to parallel-chain precedence constraints. *Discrete Applied Mathematics* Vol. 96-97 (1-3), pp. 327-336.

Cox, L.A., Jr., 1999. A biomathematical model of hematotoxicity. *Environment International*, 25, 6/7, September, 805-817.

Cox, L.A., Jr., 1999. Internal dose, uncertainty analysis, and complexity of risk models. *Environment International*, 25, 6/7, September, 841-852.

Cox, L.A., Jr., 1999. Adaptive spatial sampling of contaminated soil. *Risk Analysis*, 19, 6, 1059-1069.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10765446&dopt=Abstract

Cox, L.A., Jr., K. Paige, D. Popken, 1999. Software review of Analytica 1.2. *Human and Ecological Risk Assessment*, 5, 2, 305-316.

Lu, L., SY Chiu, and LA Cox, Jr. 1999. Optimal project selection: Stochastic knapsack with finite time horizon. *Journal of the Operational Research Society*. 50, 645-650.

Ricci PF, Cox LA, Jr. Empirical and theoretical analysis of the variability of maximum likelihood estimates of benzene cancer risks. *Environment International*, 25: 745 - 754 1999.

Fraughnaugh, K., J. Ryan, H. Zullo, L.A. Cox, Jr., 1998. Heuristics for efficient classification. *Annals of Operations Research*, 78, 189-200.

Davis, L., L.A. Cox, Jr., W.E. Kuehner, L. Lu, D. Orvosh, 1997. Dynamic hierarchical packing of wireless switches using a seed, repair, and replace genetic algorithm. *Journal of Heuristics*, 3, 3, 187-206.

[Cox, L.A., Jr., 1997.](#) Does diesel exhaust cause human lung cancer? *Risk Analysis*, **17**, 6, 807-829.

[Cox, L.A., Jr., 1996.](#) Reassessing benzene risks using internal doses and Monte-Carlo uncertainty analysis. *Environmental Health Perspectives*, **104**, Supplement 6, 1413-1429.

Cox, L.A., Jr., 1996. [Using causal knowledge to learn more useful decision rules from data.](#) Chapter 2 in D. Fisher and H.-J. Lenz (eds), *Learning from Data: AI and Statistics V*. Springer-Verlag, 1996. <http://citeseer.ist.psu.edu/65301.html>

Cox, L.A., Jr., 1996. More accurate estimates of dose-response functions using Monte-Carlo uncertainty analysis: The Data Cube approach. *Human and Ecological Risk Assessment*, **2**, 1, 146-170.

Cox, L.A., Jr., and G. Bell, 1996. A machine-learning approach to process improvement in a telecommunications company. *Annals of Operations Research*, **65**, 21-34.

Cox, L.A., Jr., M.G. Bird, and L. Griffis, 1996. Isoprene cancer risk and the time pattern of dose administration. *Toxicology*, **113**, 263-272.
<http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?uid=8901907&form=6&db=m&Dopt=b>

Cox, L.A., Jr., L. Davis, L. Lu, D. Orvosh, X. Sun, D. Sirovica, 1996. Reducing costs of backhaul networks for PCS companies using genetic algorithms. *Journal of Heuristics*, **2**, 1-16.

Cox, L.A., Jr., S. Chiu, and X. Sun, 1996. Least-cost failure diagnosis in uncertain reliability systems. *Reliability Engineering and System Safety*, **54**, 2-3, 203-316.

Chiu, S., L. Lu, and L.A. Cox, Jr., 1996. Optimal access control for broadband services: Stochastic knapsack with advance information. *European Journal of Operational Research*, **89**, 127-134.

Placke, M.E., L. Griffis, M. Bird, J. Bus, R.L. Persing, L.A. Cox, Jr., 1996. Chronic inhalation oncogenicity study of isoprene in B6C3F1 mice. *Toxicology*, **110**, 253-262.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8901906&dopt=Abstract

Schnatter, A.R., M.G. Bird, L.A. Cox, Jr., and R.F. Herrick, 1996. Defining optimal exposure assessment methods and metrics for epidemiologic studies exposures of petroleum distribution workers to benzene. *Occupational Hygiene*, 155-160.

Sun, X., Qiu, Y., and Cox, L.A., Jr., 1996. A hill-climbing approach to construct near-optimal decision trees. in D. Fisher and H.-J. Lenz (eds), *Learning from Data: AI and Statistics V*. Springer-Verlag. <http://citeseer.ist.psu.edu/154420.html>

Cox, L.A., Jr., 1995. Simple relations between administered and internal doses in compartmental flow models, *Risk Analysis*, **15**, 2, 197-204.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7604169&dopt=Abstract

Cox, L.A., Jr., 1995. An exact analysis of the multistage model explaining dose-response concavity, *Risk Analysis*, **15**, 3, 359-368.
<http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?uid=7604169&form=6&db=m&Dopt=b>

Grover, R.W., and L.A. Cox, Jr., 1995. Dynamic site portfolio remediation optimization model, *Hazardous Waste Strategies Update*, **6**, 4, 31 - 39.

Cox LA, Bell G, Glover F. A new learning approach to process improvement in a telecommunications company. *Production and Operations Management*, **4**, 3, 217-227, 1995. (POMS National Award Finalist.)

Cox, L.A., Jr., and Y. Qiu. Optimal inspection and repair of renewable coherent systems with independent components and constant failure rates, *Naval Research Logistics*, **41**, 771-788, 1994.

Cox, L.A., Jr., and Y. Qiu, Minimizing the expected costs of classifying patterns by sequential costly inspections, in P. Cheeseman and R.W. Olford (eds), *Selecting Models from Data*. Springer-Verlag, *Lecture Notes in Statistics*, Volume 89, pp. 339-350. New York, 1994.

[Cox LA Jr, Ricci PF](#). Dose-response nonlinearities for benzene revisited: a reply to Crump *et al. Risk Analysis* 1993 Oct;13(5):485-6.

Cox, L.A., Jr., Knowledge acquisition for model building, *International Journal of Intelligent Systems*, **8**, 1, 91-104, 1993.

Cox, L.A., Jr., Combining the probability judgements of experts: Statistical and artificial intelligence approaches, Chapter 26 in D.J. Hand (ed), *Artificial Intelligence Frontiers in Statistics*. Chapman and Hall, 1993.

Cox, L.A., Jr., W. Kuehner, S.H. Parrish, and Y. Qiu, 1993. Optimal expansion of fiber-optic telecommunications networks in metropolitan areas, *Interfaces*, **23**, 2, 35-48, March-April, 1993.

Davis, L.D., Y. Qiu, L.A. Cox, Jr., and D. Orvosh, A genetic algorithm for survivable network design, *Proceedings of the 5th International Conference on Genetic Algorithms*. Morgan Kaufmann, 1993.

Qiu, Y., and L.A. Cox, Jr., Heuristic testing procedures for general coherent systems, *European Journal of Operational Research*, **69**, 65-74, 1993.

Cox, L.A., Jr., Extending the stochastic two-stage model of carcinogenesis to include self-regulation of the non-malignant cell population, *Risk Analysis*, **12**, 1, 129-138, 1992.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1410709&dopt=Abstract

Cox, L.A., Jr., and P.F. Ricci, Reassessing benzene cancer risks using internal doses, *Risk Analysis*, **12**, 3, 401-410, 1992.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1410709&dopt=Abstract

Cox, L.A., Jr., and P.F. Ricci, Dealing with uncertainty: From health risk assessment to environmental decision making, *Journal of Energy Engineering*, **118**, 2, 77-94, 1992.
<http://www.pubs.asce.org/WWWdisplay.cgi?9203780>

Cox, L.A., Jr., Y. Qiu, and L. Davis, Guess-and-verify heuristics for reducing uncertainties in expert classification systems, in D. Dubois et al (eds), *Uncertainty in Artificial Intelligence*. Morgan Kaufmann, San Mateo, CA, 1992.

Parrish, S.H., L.A. Cox, Jr., Y. Qiu, and W. Kuehner, 1992. Planning for optimal expansion of leased line communication networks, *Annals of Operations Research*, **36**, 347-364.

[Cox, L.A., Jr.](#), Biological basis of carcinogenesis: Insights from benzene, *Risk Analysis*, **11**, 3, 453-464, 1991.

Cox, L.A., L. Davis, and Y. Qiu, 1991. Dynamic anticipatory routing in circuit-switched telecommunications networks, pages 124-143 in L. Davis (ed), *Handbook of Genetic Algorithms*. McGraw-Hill, New York

Cox, L.A., Jr., Knowledge-based resolution of conflicting expert opinions, *J. Applied Statistics*, **18**, 1, 23-34, 1991.

Hermansky, H., and Cox, L.A., Jr., Perceptual linear predictive (PLP) analysis-resynthesis technique, *Eurospeech 91, 2nd European Conference on Speech Communication and Technology*. Genoa, Italy, September, 1991.
http://www.isca-speech.org/archive/eurospeech_1991/e91_0329.html

Cox, L.A., Jr., Uncertain temporal logics for risk analysis, pp 1-13 in B.J. Garrick and W.C. Gekler (eds), *The Analysis, Communication, and Perception of Risk*. (Volume 8 in *Advances in Risk Assessment* series.) Plenum Press, New York, 1991.

Cox, L.A., Jr., Extending biologically-based cancer risk modeling to apply to benzene-induced leukemogenesis, in B.J. Garrick and W.C. Gekler (eds), *The Analysis, Communication, and Perception of Risk*. Plenum Press, New York, 1991.

Cox, L.A., Jr., Assessing cancer risks: From statistical to biological models, *J. Energy Engineering*, **116**, 3, 189-210, 1990

Cox, L.A., Jr., Incorporating statistical information into expert classification systems to reduce classification costs, *Annals of Mathematics and Artificial Intelligence*, **2**, 93-108, 1990.

Cox, L.A., Jr., [Pragmatic information-seeking strategies in expert classification systems](#), in D. Brown and C. White (eds), *Operations Research and Artificial Intelligence: The Integration of Problem-Solving Strategies*. Kluwer, New York, 1990.

Cox, L.A., Jr., and P.F. Ricci, Health risk assessment: Production of electricity, *J. Energy Engineering*, **116**, 3, 130-147, 1990.

Cox, L.A., Jr., [A probabilistic risk assessment program for analyzing security risks](#), pp 331-340 in L.A. Cox, Jr., and P.F. Ricci (eds), *New Risks: Issues and Management*. Plenum Press, New York, 1990.

Cox, L.A., Jr., Managing uncertain risks through 'intelligent' classification: A combined artificial intelligence/decision analysis approach, pp 473-482 in J.J. Bonin and D.E. Stevenson (eds), *Risk Assessment in Setting National Priorities*. Plenum Press, New York, 1989.

Cox, L.A., and P.F. Ricci, Legal and philosophical aspects of risk analysis, Chapter 30 in D.J. Paustenbach (ed), *The Risk Assessment of Environmental and Human Health Hazards: A Textbook of Case Studies*. Wiley, New York, 1017-1046, 1989

Cox, L.A., and P.F. Ricci, Risk, uncertainty, and causation: Quantifying human health risks. Chapter 2 in D.J. Paustenbach (ed), *The Risk Assessment of Environmental and Human Health Hazards: A Textbook of Case Studies*. Wiley, New York, 1989, 125-157.

Cox, L.A., Jr., Y. Qiu, and W. Kuehner, Heuristic least-cost computation of discrete classification functions with uncertain argument values, *Annals of Operations Research*, **21**, 1-30, 1989.

Ricci, P.F., L.A. Cox, Jr., and J.P. Dwyer, Acceptable cancer risks: Probabilities and beyond, *J. Air Pollution Control Association (JAPCA)*, **39**, 8, 1046-1053, 1989.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2677256&dopt=Abstract

Cox, L.A., Jr., Comparative risk measures for heterogeneous populations, in A. Woodhead, M.A. Bender, and R.C. Leonard (eds), *Phenotypic Variations in Populations: Relevance to Risk Assessment*. Plenum Press, New York, 1988. Also in *Basic Life Sci* 1988;43:233-43.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3365220&dopt=Abstract

Cox, L.A., Jr., Statistical issues in the estimation of assigned shares for carcinogenesis liability, *Risk Analysis*, **7**, 1, 71-80, 1987.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3615994&dopt=Abstract

Cox, L.A., Jr., Economic theory of compensation rule design for probabilistic injuries. In Lester B. Lave (Ed.), *Risk Assessment and Management*. Plenum Press, 1987. 407-420.

Ricci, P.F., and L.A. Cox, Jr., Acceptability of chronic health risks, *Toxics Law Reporter*,**1**, 35, 986-1001, 1987.

Ricci, P.F., L.A. Cox, Jr., and M. Baram, *De minimis* considerations in health risk assessment, *J. Hazardous Materials*,**15**, 1987.

Cox, L.A., Jr., Technical and policy issues in assigned share calculations: A comment on Lagakos and Mosteller, *Risk Analysis*,**6**, 3, 373-376, 1986
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3602509&dopt=Abstract

Cox, L.A., Jr., Theory of regulatory benefits assessment: Econometric and expressed preference approaches, Chapter 5, pages 85-159 in J.D. Bentkover et al. (eds), *Benefits Assessment: The State of the Art*. Reidel, Boston, 1986.

Cummings, R.G., L.A. Cox, Jr., and A. Myrick Freeman, III, [General methods for benefits assessment](#), Chapter 6 in J.D. Bentkover et al (eds), *Benefits Assessment: The State of the Art*. Reidel, Boston, 1986.

Fischhoff, B., and L.A. Cox, Jr., Conceptual framework for regulatory benefits assessment, Chapter 4 in J.D. Bentkover et al. (eds), *Benefits Assessment: The State of the Art*. Reidel, Boston, 1986.

Cox, L.A., Jr., A new measure of attributable risk for public health applications, *Management Science*,**31**, 7, 800-814, 1985

Cox, L.A., Jr., and I. Plotkin, The economic foundations of limited liability for nuclear reactor accidents, in *The Price-Anderson Law: Six Reports on Price-Anderson Issues*. American Nuclear Insurers and Liability Underwriters, Hartford, Connecticut, 1985.

Cox, L.A., Jr., and J. Fiksel, A critical review of the probability of causation method, in *The Price-Anderson Law: Six Reports on Price-Anderson Issues*. American Nuclear Insurers and Liability Underwriters, Hartford, Connecticut, 1985.

Fiksel, J., and L.A. Cox, Jr., The process analysis approach, in P.F. Ricci and M.D. Rowe (eds), *Assessing Health Impacts of Energy Technologies at the National and Regional Levels*. Pergamon Press, New York, 1984.

Cox, L.A., Jr., Probability of causation and the attributable proportion of risk. *Risk Analysis*,**4**, 221-230, September, 1984.

Cox, L.A., Jr., and J. Fiksel. Quantifying the causes of cancer. Letter to the Editor, *Risk Management*, July, 1984.

Cox, L.A., Jr., J. Fiksel, A.S. Kalelkar, and P.F. Ricci. Occupational risks of energy production. *Nuclear Safety*, **24**, 4, 459-470, 1983.

Fiksel, J., L.A. Cox, Jr., D.L. Richardson, and A. Adamantiades, Selection of nuclear safety R&D projects through value-impact analysis, *Nuclear Safety*, **24**, 1, 1983.

Cox, L.A., Jr., Artifactual uncertainty in risk analysis, *Risk Analysis*, **2**, 3, 121-135. 1982.

Murray, C.A., and L.A. Cox, Jr., The suppression effect and the institutionalization of children, pp 653-666 in L. Sechrest (ed), *Evaluation Studies Review Annual, Volume 4*. Sage Publications, Beverly Hills, CA, 1979.

PUBLISHED CONFERENCE PROCEEDINGS

Popken, DA and LA Cox. Model identification and optimization for operational simulation. In *Enabling Technologies for Simulation Science VII*, Alex F Sisti and Dawn A Trevisani, Editors, Proceedings of SPIE Vol. 5091, 294-303. 2003.

Cox, LA and Bafundo KW. Health risks from virginiamycin use in chickens. *Poultry Digest Online*. 3, 6. 2002. <http://www.wattnet.com/Library/Download/PD6virgin.pdf>

Cox, L. A., M. Laguna, B. Melián, J. A. Moreno-Pérez, and J. Sanchez (2001). Optimizing placement and sizing of wave division multiplexing and optical cross-connect equipment. *Proceedings of the 9th International Conference on Telecommunication Systems, Modeling and Analysis*, pp. 98-107. 2001

Cox, L.A., Jr., L. Lu, J. Sanchez, X. Sun, "Cost savings from network optimization of DWDM facilities and optical switches". In *Proceedings of the 8th International Conference on Telecommunications Systems: Modeling and Analysis*. Vanderbilt University, Nashville, Tennessee, March 9-12, 2000.

Cox, L.A., Jr., "Predicting and optimizing customer behaviors." In *Proceedings of the 8th International Conference on Telecommunications Systems: Modeling and Analysis*. Vanderbilt University, Nashville, Tennessee, March 9-12, 2000.

Cox, L.A., Jr., "Causal mechanisms and classification trees for predicting chemical carcinogens." In David Heckerman and Joe Whittaker (editors). *Proceedings of the Seventh International Workshop on Artificial Intelligence and Statistics*. Morgan Kaufmann Publishers, Inc., San Francisco, CA, 1999. <http://uncertainty99.microsoft.com/proceedings.htm>

Cox, L.A., Jr., Dose-response relationships and benzene toxicology in *Proceedings of The Toxicology Forum, 22nd Annual Winter Meeting*. Toxicology Forum, Inc., 1997.

Cox, L.A., Jr., "PM 2.5 and diesel exhaust health risks: Statistical vs. causal associations". Proceedings of the U. California, Riverside and The California Trucking Association

Conference on *Meeting the Environmental Challenge of the 21st Century*. World Truck Conference, Treasure Island Resort Hotel, Las Vegas, Nevada. May 13-15, 1997.

Cox, L.A., Jr., "Learning approximately optimal planning trees from complex multivariate data sets with the help of a causal theory", in I.H. Osman and J. Kelly (eds), *Proceedings of the Metaheuristics International Conference*. Kluwer, Norwell, MA., pp 287-294, 1995.

Cox, L.A., Jr., X. Sun, and Y. Qiu, "Optimal and heuristic search for a hidden object in one dimension." *Proceedings of the 1994 IEEE International Conference on Systems, Man, and Cybernetics. Volume 2*. San Antonio, Texas, October 2-5, 1994.

Qiu, Y., and L.A. Cox, Jr., "Optimal search for failed components in renewable coherent systems," *Proceedings of the 1994 IEEE International Conference on Systems, Man, and Cybernetics, Volume 2*. San Antonio, Texas, October 2-5, 1994.

Davis, L.D., Y. Qiu, L.A. Cox, Jr., and D. Orvosh, "A genetic algorithm for survivable network design", *Proceedings of the 5th International Conference on Genetic Algorithms*. Morgan Kaufmann, 1993.

Cox, L.A., Jr., "Heuristic approaches to dynamic path assignment," in *Proceedings of the First International Workshop on Operations Research in Telecommunications*, Boca Rotan, Florida, March, 1990.

Cox, L.A., Jr., "Designing expert classification systems that acquire expensive information optimally" in J. Boosee *et al* (eds), *Proceedings of the European Knowledge Acquisition Workshop for Knowledge-Based Systems*. Gesellschaft fur Mathematik und Datenverarbeitung MBH, GMD-StudienNr. 143, Bonn, Germany, 1988.

Cox, L.A., and R. Blumenthal, "KRIMB: An intelligent knowledge acquisition and representation program for interactive model building," in T. Addis *et al* (eds), *Proceedings of the First European Workshop on Knowledge Acquisition for Knowledge-Based Systems*. Reading University Press, Reading, England, 1987.

Cox, L.A., Jr. and R. Blumenthal, "Dynamic planning under uncertainty using automated model construction and risk analysis," *Proceedings of the 1987 Workshop on Simulation and Artificial Intelligence*. Seattle, WA, 1987.

Cox, L.A., Jr., "ATAM: A personal computer modeling system for security threat assessment," *Proceedings of the 2nd Annual Symposium of Physical/Electronic Security*. Philadelphia Chapter, Armed Forces Communications and Electronics Association, Philadelphia, PA, 1986

Selected Published Reports

National Academies of Sciences, Engineering, and Medicine, 2018. [*Assessing the Risks of Integrating Unmanned Aircraft Systems into the National Airspace System*](#). Washington, DC: The National Academies Press.

National Academies of Sciences, Engineering, and Medicine. 2018. [*Designing Safety Regulations for High-Hazard Industries*](#). Washington, DC: The National Academies Press.
<https://doi.org/10.17226/24907>.

National Academies of Sciences, Engineering, and Medicine, Division on Engineering and Physical Sciences, Air Force Studies Board. [*U.S. Air Force Strategic Deterrence Capabilities in the 21st Century Security Environment: A Workshop Summary*](#). National Academies Press. Washington, D.C., 2013.

National Academy of Engineering and National Research Council. [*Best Available and Safest Technologies for Offshore Oil and Gas Operations: Options for Implementation*](#). National Academies Press. Washington, D.C., 2013.

Institute of Medicine, Board on Health Sciences Policy: Prepositioned Medical Countermeasures for the Public. [*Prepositioning Antibiotics for Anthrax*](#). National Academies Press. Washington, D.C., 2011.

National Research Council. Committee on Methodological Improvements to the Department of Homeland Security's Biological Agent Risk Analysis, [*Department of Homeland Security Bioterrorism Risk Assessment: A Call for Change*](#). National Academies Press. Washington, D.C., 2008.

National Research Council. [*Safety and Security of Commercial Spent Nuclear Fuel Storage*](#). National Academies Press. Washington, D.C., 2006.

Raucher R, *et al.*, [*Quantifying Public Health Risk Reduction Benefits*](#) American Water Works Association, 2002.

LOUIS ANTHONY COX, JR., PH.D.
SELECTED TALKS, LECTURES, AND PRESENTATIONS

1. "Biological bases of low-dose nonlinearity for chemical carcinogens," invited talk presented at the Society for Risk Analysis Annual Meeting, New Orleans, Hotel Intercontinental, October 7-10, 1990.
2. "Biologically-based risk assessment," invited seminar given to the EPA and the Chemical Industry Institute of Toxicology, Research Triangle Park, North Carolina, May 22, 1991.
3. "Dealing with uncertainty in PBPK modeling," presentation to the American Industrial Health Counsel (AIHC) Delivered Dose Working Group, Washington, D.C., November 14, 1991.
4. "PBPK modeling in biologically-based risk analysis," invited talk to the Houston Chapter of the Society for Risk Analysis, Houston, TX, November 20, 1991.
5. "Why offer doctoral programs in risk analysis?," invited presentation and panel discussion at the Society for Risk Analysis Annual Meeting, Baltimore, MD, December, 1991.
6. "Challenges and promises of risk assessment," invited seminar presented to the U S Department of Agriculture's APHIS program, Hyattsville, MD, January 7, 1992.
7. "Recent advances in decision analysis," invited graduate seminar presented at the University of Colorado business school, March 18, 1992.
8. "Economic research and modeling in the telecommunications industry," invited talk given at the Public Utilities Regulatory Training Institute (PURTI) visit to U S WEST Advanced Technologies, May, 1992.
12. "New methods for calculating upper confidence bounds of multistage dose-response models," invited seminar given at the California Environmental Protection Agency, Berkeley, CA, September 4, 1992.
13. "Scientific research needs in benzene risk assessment," invited presentation and panel discussion presented at the American Petroleum Institute workshop on Mechanisms of Benzene Toxicity as a Basis for Risk Assessment, Airlie Foundation, Warrenton, VA, September 21-23, 1992.
14. "Decisions with unknown consequences: A random valuation model," presented at the Society for Risk Analysis 1992 Annual Meeting, December 6-9, Hotel del Coronado, San Diego, CA, December 6-9. 1992.

15. "Relating biologically-based risk models to population data," presented at the Society for Risk Analysis 1992 Annual Meeting, December 6-9, Hotel del Coronado, San Diego, CA, December 6-9. 1992.
16. "Incorporating biological response information into risk prediction," poster presented at the Society for Risk Analysis 1992 Annual Meeting, December 6-9, Hotel del Coronado, San Diego, CA, December 6-9. 1992.
17. "Minimizing the average costs of fault diagnosis in complex systems," poster presented at the *Fourth International Workshop on Artificial Intelligence and Statistics*, Fort Lauderdale, Florida, January 4-6, 1993.
18. "Uncertainty analysis of complex risk models: Bayesian and non-Bayesian approaches" invited seminar presented at the Harvard School of Public Health, January 26, 1993.
19. "New approaches to confidence band estimation in parametric statistical models," invited seminar presented at the Environmental Protection Agency, February 8, 1993.
20. "Statistical and artificial intelligence analysis of isoprene bioassay data", talk presented at Battelle Columbus Laboratories, September 25, 1993.
21. "Optimal project selection in a stochastic funding model", talk presented (with L. Lu and Y. Qiu) at the ORSA/TIMS Joint National Meeting, Hyatt Regency, Phoenix Arizona, October 31-November 3, 1993.
22. "A biologically-based risk assessment (BBRA) model of leukemogenesis induced by cyclophosphamide", Poster presented by Dr. Mary Paxton at the workshop on *Biological Mechanisms and Quantitative Risk Assessment: From Experimental Design to Risk Characterization*. Research Triangle Park, North Carolina, November 1-4, 1993.
23. "Coping with uncertainties in a computer simulation model of cyclophosphamide-induced leukemogenesis," invited talk, 1993 Annual Meeting of the Society for Risk Analysis, Savannah, Georgia, December 5-8, 1993.
24. "Machine learning for uncertainty management in complex risk models", invited talk presented at The Institute of Management Sciences (TIMS) and Operations Research Society of America (ORSA) joint meeting, Boston Marriott Copley Place, Boston, Massachusetts, April 24-27, 1994.
25. "Reducing the expected costs of classification trees through local search" (presented with X. Sun and Y. Qiu), invited talk, TIMS/ORSA joint meeting, Boston Marriott Copley Place, Boston, Massachusetts, April 24-27, 1994.

26. "Planning survivable interoffice networks using SPT", (coauthored with and presented by Y. Qiu), invited talk presented at TIMS/ORSA joint meeting, Boston Marriott Copley Place, Boston, Massachusetts, April 24-27, 1994.
27. "Least-cost inspecting and repairing strategies for multicomponent systems," (with X. Sun and Y. Qiu), invited talk presented at The Institute of Management Sciences (TIMS) 1994 annual conference, University of Alaska at Anchorage, June 12-15, 1994.
28. "More informative confidence limits for dose-response functions using Monte-Carlo simulation: The Data Cube approach." Invited seminar presented at the California EPA, Office of Environmental Health Hazard Assessment, Berkeley, CA, August 12, 1994.
29. "New frontiers in toxicology information: Technologies of the information superhighway." Keynote address, *21st Annual Toxicology Information Roundtable*, MICROMEDEX Toxicology, Medicine, and Environmental Series, Westin Hotel at Tabor Center, Denver, Colorado, October 13, 1994.
30. "Nonlinear dose-time-response relations for chemical leukemogens: Computer simulation of the roles of cell kinetics and hematotoxicity." Invited talk presented at the *Symposium on Recent Developments in Benzene Epidemiology and Toxicology*. Villa Florence Hotel. San Francisco, CA. November 29-30, 1994.
31. "A simulation method for constructing more informative upper confidence limits on dose-response functions," invited talk presented at the 1994 Annual Meeting of the Society for Risk Analysis, Hyatt Regency at the Inner Harbor, Baltimore, MD, December 4-7, 1994.
<http://www.riskworld.com/Abstract/1994/sraam94/ab4aa072.htm>
32. "Nonlinear cell kinetics can explain observed anomalies in dose-time-response patterns," Poster session (presented with Dr. M.B. Paxton), 1994 Annual Meeting of the Society for Risk Analysis, Hyatt Regency at the Inner Harbor, Baltimore, MD, December 4-7, 1994.
<http://www.riskworld.com/Abstract/1994/sraam94/ab4aa249.htm>
33. "Automated visualization and discovery of predictively useful biological response profiles in complex data set" (with Dr. M. Bird), presented at the 1994 Annual Meeting of the Society for Risk Analysis, Hyatt Regency at the Inner Harbor, Baltimore, MD, December 4-7, 1994.
34. "PBPK modeling and mechanistic risk assessment: Using scientific information to improve risk assessment." Lecture given at the CACI/CDPHE Risk Assessment Workshop, Denver, CO, January 31, 1995.

35. "Reassessing benzene risks using internal doses and Monte-Carlo uncertainty analysis", invited talk presented at Benzene '95, Rutgers, New Jersey, June, 1995.
36. "Analysis of isoprene bioassay data: Risk assesment implications", invited talk presented at the International Symposium: Evaluation of Butadiene and Isoprene Health Risks", Blaine, Washington, June 27-29, 1995.
37. "Reanalyzing human lung cancer risks from diesel exhaust using a multivariate risk model", invited talk presented at the Diesel Risk Assessment Workshop, San Francisco, January 29-30, 1996.
38. "Biomathematical modeling of chemically-induced myelotoxicity and potential applications to t-AML risk modeling", invited talk presented at the University of California, Berkeley Workshop on *Modeling Chemically-Induced Leukemia -- Implications for Benzene Risk Assessment*. Yountville, CA, February 11-13, 1996. (Report by M.T. Smith and E.W. Fanning published in *Leukemia Research*, 1997.)
39. "Scheduling switch replacements with randomly decreasing deadlines", with S. Chiu and Y. Lee, presented at INFORMS 96, Washington, D.C., May 5-8, 1996.
40. "Optimal design of digital wireless networks" (with S. Chiu, J. Ryan, V. Corlew, S. Raghavan), presented by Dr. S. Chiu at IFORS Conference, Vancouver, May, 1996.
41. "A network design problem for multimedia broadband networks," presented by Dr. Cox for Dr. Y. Lee at INFORMS Spring meeting, Washington, D.C., May 5-8, 1996.
42. "Stochastic optimization in classification trees." *Fifth Society for Industrial and Applied Mathematics Conference on Optimization*, Victoria, British Columbia, May 20-22, 1996.
43. "Using data to improve business performance: Techniques and applications", invited talk given at the *Electric Power Research Institute (EPRI) 1996 Performance Measurement Workshop*. Loews Giorgio Hotel, Denver, CO. November 7, 1996.
44. "Uncertainty analysis of complex risk models," invited talk presented at the Society for Risk Analysis and International Society of Exposure Analysis, 1996 Annual Meeting, Fairmont Hotel, New Orleans, December 8-12, 1996.
<http://www.riskworld.com/Abstract/1996/SRAam96/ab6aa088.htm>
45. "Decision models for uncertain hazards", invited talk presented at the Society for Risk Analysis and International Society of Exposure Analysis, 1996 Annual Meeting, Fairmont Hotel, New Orleans, December 8-12, 1996.
<http://www.riskworld.com/Abstract/1996/SRAam96/ab6aa134.htm>
46. "Using classification trees to improve causal inferences in observational studies." Presented at the *Sixth International Workshop on Artificial Intelligence and Statistics*. Fort Lauderdale, Florida. January 4-7, 1997.

47. Testimony on health effects of particulate matter. Presented on behalf of the Engine Manufacturers Association at EPA's Public Hearings on Ozone and Particulate Matter National Ambient Air Quality Standards. Salt Lake City, January 14, 1997.
48. "Adaptive spatial sampling for inspection and cleanup at hazardous waste sites". Invited seminar given at AlliedSignal, Morristown, New Jersey. January 28, 1997.
49. "Dose-response relationships and benzene toxicology." Invited talk presented at the Toxicology Forum, 22nd Annual Winter Meeting. Loews L'Enfant Plaza Hotel, Washington, D.C. February 24-27, 1997.
50. "A computer model of hematotoxicity explaining experimental and clinical data for cyclophosphamide and benzene". Invited presentation, with Dr. M.B. Paxton, at the SOT Poster/Discussion session on "Benzene -- Toxicity, Mechanisms, and Pharmacokinetics", Abstract #839. 36th Annual Meeting of the Society of Toxicology. Cincinnati Convention Center, March 11, 1997.
51. "Heuristics for improved design of telecommunications networks and services". Invited lecture in graduate seminar on Advanced Topics in Optimization. University of Colorado at Boulder. April 23, 1997.
52. "Nonlinear dose-time-response models for chemical carcinogens." Invited seminar, hosted by the University of Colorado at Denver Biomathematics Seminar, Denver, Colorado. April 30, 1997.
53. "Optimal sequential inspection of complex reliability systems with uncertain structure function and component reliabilities." Invited talk, presented at the INFORMS Spring meeting, San Diego, May 4-7, 1997.
54. "An integrated business simulation model for PCS companies." Invited talk, INFORMS Spring meeting, San Diego, May 4-7, 1997. (With W. Kuehner, K. Paige, J. Parker)
55. "Optimizing PCS backhaul networks: Should wireless network engineers care?" Invited talk, presented at the INFORMS Spring meeting, San Diego, May 4-7, 1997.
56. "Optimization modeling therapy for large, disorganized companies". Invited talk, presented at the INFORMS Spring meeting, San Diego, May 4-7, 1997.
57. "PM 2.5 and diesel exhaust health risks: Statistical vs. causal associations". Invited talk presented at University of California, Riverside and The California Trucking Association Conference on *Meeting the Environmental Challenge of the 21st Century*. World Truck Conference, Treasure Island Resort Hotel, Las Vegas, Nevada. May 13-15, 1997.

58. "A computer model of hematotoxicity explaining experimental and clinical data." Invited seminar, hosted by the University of Colorado at Denver Biomathematics Seminar, Denver, Colorado. November 19, 1997.
59. "Adaptive spatial sampling for investigating and remediating contaminated properties." Poster session presented at the Society for Risk Analysis 1997 Annual Meeting. Capitol Hilton Hotel, Washington, D.C., December, 1997.
<http://www.riskworld.com/Abstract/1997/SRAam97/ab7ab384.htm>
60. "Directed acyclic graph algorithms for interpreting causality in ambiguous epidemiological data". Invited seminar, hosted by the University of Colorado at Denver's Biomathematics Seminar Series, Denver, Colorado. February 7th, 1998.
61. "Applied mathematics in telecommunications consulting". Invited seminar, hosted by University of Colorado at Denver's Optimization Seminar Series. <http://www-math.cudenver.edu/optima/seminars.html>. February 11, 1998.
62. "Dynamic hierarchical packing minimizes costs of wireless switch capacity expansion." Invited talk presented at the 1998 INFORMS Telecommunications Conference, Sheraton Inn, Boca Rotan, Florida. March 8-11, 1998.
http://www.cstp.umkc.edu/informs-telecom/4th_conf_dir/adv_prog_detail.html
63. "More accurate forecasting of demand for telecommunications products using customer information profiles and purchase transition data." Invited talk presented at the 1998 INFORMS Telecommunications Conference, Sheraton Inn, Boca Rotan, Florida. March 8-11, 1998.
http://www.cstp.umkc.edu/informs-telecom/4th_conf_dir/adv_prog_detail.html
64. "Exact mathematical analysis of multistage carcinogenesis models," Invited seminar, hosted by the University of Colorado at Denver's Biomathematics Seminar Series, Denver, Colorado. April 10th, 1998.
65. "Association vs. causation: Notes and comments on EPA's draft risk assessment for diesel exhaust", presented to the Clean Air Scientific Advisory Committee (CASAC), Governor's Inn, Research Triangle Park, NC, May 5th, 1998.
66. "Advances in data mining: Case studies from the telecommunications industry." Invited lecture, University of Denver, Daniels School of Business, capstone course in data technologies for business applications, May 11th, 1998.
67. "Advances in biologically-based risk assessment". Invited seminar given at Exxon Biomedical Sciences, Inc., Mettlers Road, New Jersey. June 1, 1998.
68. "New methods for identifying quantitative structure-activity and activity-activity relations." Invited seminar given at Exxon Biomedical Sciences, Inc., Mettlers Road, New Jersey. June 1, 1998.

69. "Simulation-optimization heuristics for sampling contaminated soils." Invited presentation, Biomathematics and Statistics Seminar, University of Colorado at Denver Mathematics Department. September 24, 1998.
70. "Identifying customer demand processes from data." Presentation given (with Dr. Douglas Popken) at INFORMS 98, SeattleConventionCenter, October 26th, 1998.
71. "Optimal statistical sampling of contaminated soils." Invited lecture, Seminar in Advanced Topics in Optimization, U. of Colorado at Boulder, December 2nd, 1998
72. "Computational Bayesian methods for assessing uncertain exposures." Lecture in the 1998 Workshop on *Probabilistic Methods in Risk Assessment*. Society for Risk Analysis Annual Meeting, Phoenix, Arizona. December 6th, 1998.
73. "Axiomatic Definitions of Risk". Poster presented at Society for Risk Analysis Annual Meeting, Phoenix, Arizona. December 9th, 1998.
<http://www.sra.org/events.htm#annual>
74. "A simulation-optimization approach to cost-effective sampling and cleanup of contaminated areas." Talk presented at the Society for Risk Analysis 1998 Annual Meeting, Phoenix, Arizona. December 9th, 1998. <http://www.sra.org/events.htm#annual>
75. "A biologically motivated model of hematotoxicity: Model overview and empirical evaluation." Presented at the *Hematotoxicity Modeling Workshop*, Institute of Population Health, University of Ottawa. December 15th, 1998.
76. "Causal mechanisms and classification trees for predicting chemical carcinogens." Presented (by Professor D. Fisher for LA Cox) at the *Seventh International Workshop on Artificial Intelligence and Statistics*. Fort Lauderdale, Florida. January 3-6, 1999. <http://uncertainty99.microsoft.com/proceedings.htm>
77. "Applied mathematics in telecommunications consulting." Invited lecture in Undergraduate Mathematics Seminar, University of Colorado at Denver, March 8th, 1999. <http://www.cudenver.edu/~hgreenbe/courses/3001/S99/syllabus.html>
78. "Causal data mining and modeling of customer data." Invited lecture, University of Denver, Daniels School of Business, capstone course in data technologies for business applications, April 29th, 1999.
79. "Optimal use of acquired network facilities." Invited presentation, INFORMS '99, CincinnatiConventionCenter, May 3rd, 1999.
80. "Valid and invalid causal inferences in epidemiology." Invited talk, CU-Denver Statistics and BioMath Seminar, September 14th, 1999.

81. "An axiomatic approach to attributable risk," CU-Denver Statistics and BioMath Seminar, October 19th, 1999.
82. "Forecasting purchases of telecommunications services via state transition models", with Dr. Doug Popken. INFORMS Fall '99, Philadelphia, November 7-10, 1999.
<http://www.informs.org/Conf/Philadelphia99//TALKS/TE13.html>
83. "Causal data mining of telecommunications customer data", INFORMS Fall '99, Philadelphia, November 7-10, 1999.
<http://www.informs.org/Conf/Philadelphia99//TALKS/TE13.html>
84. "Mathematical validity of CVM Risk Assessment." Invited review of antimicrobial risk assessment, presented at U.S. Food and Drug Administration Center for Veterinary Medicine (CVM)'s Draft Risk Assessment and the Establishment of Resistance Thresholds Workshop, December 9th and 10th, 1999. DoubleTree Hotel, Rockville, MD. http://www.fda.gov/cvm/mathval_tcox.htm
85. "Optical network planning and optimization in metropolitan areas." Invited talk at Institute for International Research Conference on *Transitioning to the Next on Metropolitan Network Using DWDM*. Wyndham Miami Beach Resort, February 14-15, 2000.
86. "Data mining and causal simulation modeling of customer behaviors". Tutorial presented at Fifth INFORMS Telecommunications Conference. Sheraton Boca Raton Hotel, Boca Raton, Florida, March 5-8, 2000.
<http://www.crt.umontreal.ca/GERAD/boca2000/monday.shtml#ma>
87. "Cost savings from network optimization of DWDM facilities and optical switches". Presented at 8th *International Conference on Telecommunications Systems: Modeling and Analysis*. Vanderbilt University, Nashville, Tennessee, March 9-12, 2000.
88. "Predicting and optimizing customer behaviors." Presented at 8th *International Conference on Telecommunications Systems: Modeling and Analysis*. Vanderbilt University, Nashville, Tennessee, March 9-12, 2000.
89. "Attributable risk and multiple causes." Invited seminar, University of Colorado Health Sciences Center Seminar Series, April 17th, 2000
90. "Predicting how Telecommunications Ads Affect Customer Values". INFORMS Spring 2000 Meeting, Salt Lake City, Utah, May 7-10, 2000. Salt Palace Convention Center.
<http://www.informs.org/Conf/SaltLake2000//TALKS/MB19.html>
91. "A simulation model of excess illnesses from fluoroquinolone-resistant *Campylobacter*." Invited presentation, 9th Symposium of the International Society

for Veterinary Epidemiology and Economics. Beaver Run Resort, Breckenridge, CO, August 6-11, 2000.

<http://www.cvmb.colostate.edu/cveadss/schedule/SchedulePage.htm>

92. "Some new problems in applied optimization: Telecommunications data mining and network design applications." Invited lecture, Seminar in Special Topics in Optimization, University of Colorado at Boulder, School of Business, November 2nd, 2000.
93. "Designing Effective Risk Management Decision Processes" (with V. Bier). Invited talk, INFORMS Annual Meeting, San Antonio, November, 2000. (Presented by Professor Bier.)
94. "A discrete-event simulation model of human health risks from fluoroquinolone-resistant *Campylobacter* in chickens." Society for Risk Analysis Annual Meeting, Washington D.C. December 6th, 2000.
95. "Alternatives to establishing thresholds: A predictive modeling framework." Invited talk presented at the FDA meeting on Use of Antimicrobial Drugs in Food Animal and the Establishment of Regulatory Thresholds on Antimicrobial Resistance. Rockville, MD, January 22 - 24, 2001.
<http://www.fda.gov/cvm/antimicrobial/thresagenda51.htm>
96. "Advances in data mining for predicting risks of customer responses to interventions." Invited lecture, HearinCenter for Enterprise Science. University of Mississippi School of Business Administration, Oxford, Mississippi, 2-24-01.
97. "Data mining methods for health risk data bases." Invited lecture, Seminar on Computational Biology, University of Colorado Department of Mathematics, Denver, Colorado, 3-15-01.
98. "Optimized mesh vs. ring comparisons". Invited presentation and panel discussion, All Optical Network Conference, Orlando, Florida, May 3rd, 2001.
99. "Campylobacter risk analysis: a cause-and-effect view." Invited presentation, *Second International Conference on Antimicrobial Resistance: Use of Antimicrobials and Protection of Public Health*. Office International des Epizooties, Paris, France. 2-4 October, 2001.
100. "Decision-making with incomplete models". Invited lecture, Seminar in Special Topics in Optimization, University of Colorado at Boulder, School of Business, November 28th, 2001.
101. "Game theoretic models of critical infrastructure protection" Society for Risk Analysis Annual Meeting, Seattle, WA, December 5th, 2001. (Bier, V., Abhichandani, V., Cox, LA Jr. Presented by Professor V. Bier.)

102. "The Causes of Campylobacteriosis". Invited paper presented at *Symposium on the Use of Fluoroquinolones in Poultry: Effect on Campylobacter and the Potential Human Health Consequences*. Cambridge, MA, March 1, 2002.
103. "Optimizing Dark Fiber Use in Metropolitan Areas" (with G. Bell), *Sixth INFORMS Telecommunications Conference*, Boca-Raton, Florida, March 10-13, 2002.
<http://www.informs.org/Conf/Telecom02/Abstracts/Cox01336062645.pdf>
104. "What is the cost of a DS3?" . Invited talk, *Sixth INFORMS Telecommunications Conference*, Boca-Raton, Florida, March 10-13, 2002.
http://www.informs.org/Conf/Telecom02/Abstracts/Cox_network_cost_abstract.pdf
105. "Least-Cost Acquisition of Service Facilities Via Spatial Clustering" (with D. Babayev), *Sixth INFORMS Telecommunications Conference*, Boca-Raton, Florida, March 10-13, 2002. <http://www.informs.org/Conf/Telecom02/Abstracts/Cox01356165150.pdf>
106. "Predicting Likely Telecom Service Buyers by Mining D&B and Billing Data", *Sixth INFORMS Telecommunications Conference*, Boca-Raton, Florida, March 10-13, 2002 <http://www.informs.org/Conf/Telecom02/Abstracts/Cox01361002535.pdf>
107. "How to Make Good Risk Management Decisions with Inadequate Data: Applications to Blood Supply Safety." Invited talk, *Decision-Making Under Conditions of Uncertainty Regarding Rare and Emerging Diseases, with special focus on the Human Impact of Transmissible Spongiform Encephalopathy (TSE)*, Fairmont Chateau Laurier Hotel. Ottawa, Ontario. March 25th and 26th, 2002.
http://www.hc-sc.gc.ca/pphb-dgspsp/hcai-iamss/sra-ser/tse-est02/pdf/proceedings_dmucu_%202002.pdf
108. "Using Epidemiological Data in Risk Assessment". Lecture in Professional Course on Probabilistic Risk Assessment. Health Canada. Ottawa, Ontario. March 27th, 2002.
109. "Integrating Health Risk Assessment and Management". Lecture in Professional Course on Probabilistic Risk Assessment. Health Canada. Ottawa, Ontario. March 27th, 2002.
110. "Causes of Campylobacteriosis", invited talk at the University of Colorado Health Sciences Center, Denver, Colorado. April 9th, 2002.
111. "Human Health Risk Assessment for Virginamycin Use in Chicken" (with D. Popken), Poster Presentation P11 at *2002 Conference on Antimicrobial Resistance*. Hyatt Regency Bethesda, Bethesda, MD, June 27th-29th, 2002.
<http://www.nfid.org/conferences/resistance02/absposter.pdf>
112. "Causes of Fluoroquinolone-Resistant Campylobacteriosis" (with D. Popken), Poster Presentation P12 at *2002 Conference on Antimicrobial Resistance*. Hyatt Regency Bethesda, Bethesda, MD, June 27th-29th, 2002.

<http://www.nfid.org/conferences/resistance02/absposter.pdf>

113. “Quantifying Human Health Impacts of Veterinary Medical Products Regulations.” Invited Plenary Presentation. VICH 2. Tokyo, Japan, October 10th, 2002.
114. “Defending Networked Resources Against Intelligent Attacks.” Invited presentation, INFORMS Annual Meeting, San Jose. November 17-20, 2002.
<http://informs.emetingsonline.com/emettings/formbuilder/clustersessiondtl.asp?csnno=311&mmnno=101>
115. “Modeling the Human Health Risks from Antibiotic Use in Chickens”. Presented at INFORMS Annual Meeting, San Jose. November 17-20, 2002.
<http://informs.emetingsonline.com/emettings/formbuilder/clusterpaperdisplay.asp?ppnno=1257>
116. “Quantifying human health impacts of antimicrobial risk management alternatives for enrofloxacin”. Winner, Society for Risk Analysis Best Paper Award,. Society for Risk Analysis Annual Conference, New Orleans, LA. December 9-11, 2002.
www.sra.org/news0203.pdf
117. “Quantifying human health risks from virginiamycin used in chickens.” Poster Presentation, Society for Risk Analysis Annual Conference, New Orleans, LA. December 9-11, 2002.
118. “Uncertainty in quantitative estimates of health risk from diesel particles”. Invited plenary talk, Sixth Workshop on Mexico City Air Quality, Hotel Royal Pedregal, México January 21, 2003.
119. “Communicating risks and uncertainties to health managers.” Invited talk, Advanced Risk Management Techniques, Strategies, and Modelling Practices: Blood Safety. Statistics and Risk Assessment Section, Blood Safety Surveillance and Health Care Acquired Infections Division. Centre for Infectious Disease Prevention and Control. Population and Public Health Branch. Health Canada. Fairmont Chateau Laurier Hotel. March 13th-14th, 2003.
120. “Nonlinear Low-Dose Hematotoxicity” presented at *Non-Linear Dose-Response Relationships in Biology, Toxicology, and Medicine: An International Conference*. (University of Massachusetts, Amherst, MA, May 28-30th, 2003)
<http://www.belleonline.com/abstracts/session6.html>
121. “Human Health Risks and Benefits of Current Enrofloxacin Use Patterns and Alternatives” (with Dr. Douglas Popken). Poster presented at the *NFID 2003 Annual Conference on Antimicrobial Resistance*. June 23-25th, Hyatt Regency Bethesda, MD, 2003. <http://www.nfid.org/conferences/resistance03/>.

122. “Quantifying Human Health Impacts of Antimicrobials Used in Veterinary and Human Medicine.” Poster presented at the *NFID 2003 Annual Conference on Antimicrobial Resistance*. June 23-25th, Hyatt Regency Bethesda, MD, 2003. <http://www.nfid.org/conferences/resistance03/>.
123. “The role of risk assessment in assessing the future of antimicrobials in food animal production: an overview.” Invited presentation, *Seventh DISCOVER Conference on Food Animal Agriculture: Is There a Future for Antibiotics in Animal Agriculture?* September 21-24, 2003. Abe Martin Lodge, BrownCountyState Park. Nashville, Indiana <http://www.adsa.org/discover/7thDISCOVERProg4-8-03.htm>
124. Cox, LA. [A Computer Simulation Model of Low-Dose Interactions Among VOC Hematotoxins In Bone Marrow](#). Presented at Society for Risk Analysis Annual Meeting. Baltimore. December 7-10, 2003.
125. Cox LA., Popken DA. [Past and Future Human Health Risks and Benefits from Animal Antimicrobials](#). Presented at Society for Risk Analysis Annual Meeting. Baltimore. December 7-10, 2003.
126. Cox LA. [Quantitative and Qualitative Prediction of Human Health Risks from Emerging Resistance to Animal Antimicrobials](#). Presented at Society for Risk Analysis Annual Meeting. Baltimore. December 7-10, 2003.
127. Cox LA. [Information Theory, Causality, and Objective Hazard Identification](#) . Presented at Society for Risk Analysis Annual Meeting. Baltimore. December 7-10, 2003.
128. Cox LA. Risk Analysis Ideas for Decontaminating Buildings. Invited presentation, NRC Workshop on Standards and Policies for Decontaminating Public Facilities Affected by Exposure to Harmful Biological Agents. Hotel Monaco, Washington, D.C., January 28-29, 2004.
129. Cox, LA. Does the use of antibiotics in food animals pose a risk to human health? A critical review of published data. NARMS Conference. Decatur, Georgia. March 5, 2004.
130. Cox LA. [The use of risk assessment models in formulating regulations for antibiotic use in food animal production](#). 53rd Western Poultry Disease Conference March 7-9, 2004 Capitol Plaza Holiday Inn - Sacramento, California
131. Cox LA. Simulating bone marrow impacts of VOC mixtures. Invited poster presented at the American Chemistry Council’s LRI Annual Science Meeting. May 5-6, 2004 Hotel Inter-Continental Miami, Florida

132. Cox LA. Rapid Risk Rating Technique for risk-benefit assessments of antibiotics used in food animals. Invited presentation, ASM General Meeting New Orleans, Louisiana, May, 2004.
133. Cox LA. Detecting causal non linear exposure-response relations in epidemiological data. Poster presented at *Non-Linear Dose-Response Relationships in Biology, Toxicology, and Medicine: An International Conference*. University of Massachusetts, Amherst, MA. June 8-10, 2004.
134. Cox LA. Low-dose nonlinearity of hematopoietic dose-response relations. Poster presented at *Non-Linear Dose-Response Relationships in Biology, Toxicology, and Medicine: An International Conference*. University of Massachusetts, Amherst, MA. June 8-10, 2004.
135. Cox LA. Universality of J-shaped and U-shaped dose-response relations in stochastic transition systems. Talk presented at *Non-Linear Dose-Response Relationships in Biology, Toxicology, and Medicine: An International Conference*. University of Massachusetts, Amherst, MA. June 8-10, 2004.
136. Cox LA. Qualitative vs. Quantitative Risk Assessment of Animal Antimicrobials. Poster presented at the *NFID 2004 Annual Conference on Antimicrobial Resistance*. June 28th, Hyatt Regency Bethesda, MD, 2004.
<http://www.nfid.org/conferences/resistance04/>. <http://www.nfid.org/conferences/resistance04/>.
137. Cox LA. A Rapid Risk Rating Technique (RRRT) for Quantitative Risk Assessment of Animal Antimicrobials. Poster presented at the *NFID 2004 Annual Conference on Antimicrobial Resistance*. June 28th, Hyatt Regency Bethesda, MD, 2004. <http://www.nfid.org/conferences/resistance04/>. <http://www.nfid.org/conferences/resistance04/>.
138. Quantitative comparison of human health risks and benefits caused by alternative decisions on animal drug uses. Invited talk at Society for Risk Analysis Symposium: *Risk Assessment and Antimicrobial Resistance: Past, Present and Future*. Hyatt Regency Crystal City, Arlington, VA. September 28-29, 2004.
http://www.sra.org/docs/amr-ra_flyer.pdf
139. Cox LA Jr, Babayev D. [Stochastic Optimization Via Random Sampling and Deterministic Solutions](#). Presented at INFORMS 2004 Annual Meeting. Denver, CO. October, 2004.
140. Popken DA, Cox LA Jr. [Results from Simulation-Based Planning of Theatre Air Warfare](#). Presented at INFORMS 2004 Annual Meeting. Denver, CO. October, 2004.
141. Cox LA Jr. Potential human health benefits of antibiotics used in food animals: a case study of virginiamycin. Poster presented at the Society for Risk Analysis

- Annual Meeting. WydhamPalm Springs. Palm Springs, CA. December 5-8, 2004. <http://birenheide.com/sra/2004AM/program/singleession.php3?sessid=P3>
142. Cox LA, Jr., G. Charnley, C.L. Gaworski. Linear vs. Nonlinear Models of Excess Lung Cancer Risks Induced by Carbon Filter Particles in Cigarette Smoke. Poster presented at the Society for Risk Analysis Annual Meeting. WydhamPalm Springs. Palm Springs, CA. December 5-8, 2004. <http://birenheide.com/sra/2004AM/program/singleession.php3?sessid=P3>
143. Cox, LA Jr. Emergent, Robust Non-Linearity of Dose-Response Relations in Stochastic Transition Models. Invited presentation at the Society for Risk Analysis (SRA) Annual Meeting. Wyndham Palm Springs. Palm Springs, CA. December 5-8, 2004. <http://birenheide.com/sra/2004AM/program/singleession.php3?sessid=P3>
144. Cox, LA Jr. BSE Update. Invited presentation, R-CALF Annual National Convention. January 19, 2005 Red Lion Hotel, Denver CO. <http://www.lmaweb.com/infonewspast.html> , <http://www.hpj.com/bsetimeline.cfm>
145. Cox, LA Jr. Potential human health impacts of banning antibiotics used in food animals: A case study of virginiamycin. Invited talk, Conference on: Worldwide Ban on Animal Antibiotics on the Horizon? Amsterdam. January 31, 2005.
146. Cox, LA Jr. Quantifying potential human health risks and benefits of animal antibiotics. FDA, Center for Veterinary Medicine (CVM) FASS Symposium, Food Safety, Animal Drugs, and Animal Health Committee. Rockville, MD. February 14th, 2005.
147. Cox, LA Jr. Causal modeling in health risk analysis: Designing safer cigarettes and other applications. Invited talk, Seminar in Special Topics in Optimization, University of Colorado at Boulder, School of Business. 3-16-2005.
148. Cox, LA Jr. Low-dose dose-response nonlinearities as adaptive inventory control risk management strategies for tissues. Invited presentation at the *Fourth Annual International Conference on Hormesis: Implications for Toxicology, Medicine, and Risk Assessment*. University of Massachusetts at Amherst. Amherst, MA, June 8, 2005. http://belleonline.com/BellePrelim_2005.pdf
149. Cox, LA Jr. Complex low-dose nonlinearities: Insights from cadmium. Poster presented at the *Fourth Annual International Conference on Hormesis: Implications for Toxicology, Medicine, and Risk Assessment*. University of Massachusetts at Amherst. Amherst, MA, June 8, 2005. http://belleonline.com/BellePrelim_2005.pdf
150. Cox, LA Jr. Dynamics of u-shaped and n-shaped dose-response in a simple model of cytotoxicity-mediated carcinogenesis. Poster presented at the *Fourth Annual International Conference on Hormesis: Implications for Toxicology,*

- Medicine, and Risk Assessment.* University of Massachusetts at Amherst. Amherst, MA, June 8, 2005. http://belleonline.com/BellePrelim_2005.pdf
151. Cox LA Jr., Approaches to Antimicrobial Risk Analysis in Food Safety Decision Making in Poultry Medicine. Invited talk, 2005 AAAP/AVMA Annual Meeting. Minneapolis Convention Center. July 17th, 2005. <http://www.aaap.info/annlmtg/m2005/Symposium%20AAAP%202005.pdf>
 152. Cox LA Jr., Modeling Lung Carcinogenesis 1: Genotoxic and epigenetic events in two-stage clonal expansion (TSCE) models. Invited presentation, Philip Morris Research Laboratories Symposium on Genotoxic and Epigenetic Tumorigenesis. Crown Plaza Hotel. Cologne, Germany. November 14-16, 2005
 153. Cox LA Jr., Modeling Lung Carcinogenesis 2 : Toward a biologically based model of smoking and lung cancer . Invited presentation, Philip Morris Research Laboratories Symposium on Genotoxic and Epigenetic Tomorigenesis. Crown Plaza Hotel. Cologne, Germany. November 14-16, 2005
 154. Cox LA Jr., Food Animal Antibiotics and Human Health. Invited seminar, Sponsored by Seed Science Center/Institute for Food Science & Security. IowaStateUniversity. November 30th, 2005.
 155. Cox LA Jr., Assessing and Managing the Human Health Risks from Antibiotics Used in Food Animals: Data, Analysis, and Policy Perspectives. Invited presentation at IowaStateUniversity. December 1, 2005.
 156. Cox LA Jr., Food Animal Antibiotics and Human Health: History and Policy Perspectives. Invited presentation at the *Society for Risk Analysis (SRA) 2005 Annual Meeting*. Orlando, Florida. December 4-7th, 2005. <http://birenheide.com/sra/2005AM/program/singlesession.php3?sessid=M19>
 157. Cox LA Jr., What Fraction of Disease Can be Prevented by Removing Specific Exposures? Presentation at the *Society for Risk Analysis (SRA) 2005 Annual Meeting*. Orlando, Florida. December 4-7th, 2005. <http://birenheide.com/sra/2005AM/program/singlesession.php3?sessid=M4>
 158. Cox, Tony. Risk analysis and public health – How to get from good intentions to good results: Animal antibiotics and other examples. Invited talk, *Café Scientifique*. Denver Colorado. January 17th, 2006. <http://cafescicolorado.org/Cox.htm#topic>
 159. Cox LA Jr., Using data mining to predict and to influence customer behaviors: Some real-world examples. Invited talk, Seminar in Information Systems and Data Mining, University of Colorado at Boulder, Leeds School of Business. 2-7-2006.

160. Cox LA, Popken DA, Carnevale R. Quantitative risk analysis for animal antibiotics. *Edelman Award Competition. INFORMS Practitioners Meeting*. Hotel Intercontinental, Miami, Florida. May 1, 2006.
<http://iol-a.informs.org/index.php?c=401&kat=Franz+Edelman+Award>
161. Cox LA Jr..Assessing uncertainty in influential risk assessments. Invited talk, *Public Forum on OMB's Proposed Risk Assessment Bulletin: Implications for Practice Inside and Outside Government*. George Washington University Cafritz Conference Center. Washington D.C. May 24, 2006. <http://www.ramas.com/omb1.htm>
162. Cox LA Jr. Meta-hormesis for uncertain risks: Arsenic as a case study. Invited presentation and panel discussion. *Fifth Annual International Conference on Hormesis: Implications for Toxicology, Medicine, and Risk Assessment*. University of Massachusetts at Amherst. Amherst, MA, June 7, 2006.
http://www.hormesisociety.org/pdf/2006_Hormesis_Preliminary.pdf
163. Cox, Tony. [Assessing Construction Defect Risks](#). *INFORMS 2006 Annual Meeting*. Pittsburgh, Wednesday Nov 08.
<https://informs.emettingsonline.com/emettings/websitepapersv2.asp>
164. Cox LA Jr. Hormesis dynamics in a model of lung field cancerization. *Society for Risk Analysis 2006 Annual Meeting*. Baltimore MD Harbor Renaissance Hotel. December 3-6, 2006.
<http://birenheide.com/sra/2006AM/program/single-session.php3?sessid=T3-B>
165. Cox LA Jr. Uncertainty, variability and transparency in OMB's Bulletin on Risk Analysis. Invited presentation and panel discussion. *Society for Risk Analysis 2006 Annual Meeting*. Baltimore MD Harbor Renaissance Hotel. December 6, 2006.
166. Cox, Tony. Simulation of lung carcinogenesis: Some challenges for parameter optimization. Invited talk, School of Engineering, University of Colorado. 2-21-2007.
167. Cox, Tony. Is the A/J Mouse an Appropriate Model for Human COPD Risks? Invited panel discussion. Philip Morris Research Seminar on *The A/J Mouse – A Relevant Animal Model for Cigarette Smoke-Induced Diseases?* Hyatt Hotel. Cologne, Germany. May 29-30, 2007.
168. Cox LA Jr. Hierarchical, knowledge-based, and approximate models can aid prediction, assessment and communication of the lung cancer risks associated with smoking. Invited presentation, *Society for Risk Analysis – Europe. Sixteenth Annual Meeting*. The Hague, Amsterdam. June 17-19, 2007.
<http://www.sraeurope2007.eu/docs/ConferenceBookofAbstracts.pdf>

169. Cox, Tony. Quantifying Potential Human Health Risks from Penicillin/Ampicillin Use in Food Animals. Presentation at the U.S.FDACenter for Veterinary Medicine (CVM). Rockville, Maryland. August 29, 2007.
170. Cox, Tony. Dynamic Simulation of COPD: Neutrophil Accumulation. Invited presentation. Philip Morris International, Research. Neuchatel, Switzerland. September 6, 2007.
171. Cox, Tony. Dynamic Simulation of COPD: Protease-Antiprotease Imbalance. Invited presentation. Philip Morris International, Research. Neuchatel, Switzerland. September 6, 2007.
172. Cox, Tony. Simulating lung cancer risk from conventional and modified cigarettes. Invited presentation at UCDHSC Department of Mathematical Sciences: Operations Research Seminar. December 05, 2007
173. Cox, Tony;Popken, Douglas A; Mathers, Jerry. [Do penicillin-based drugs administered to food animals threaten human health?](#) *Society for Risk Analysis 2007 Annual Meeting*. San Antonio, Texas. December 9-12, 2007. <http://birenheide.com/sra/2007AM/program/>
174. Cox, Tony. [Identifiability and prediction uncertainty in a multistage clonal expansion \(MSCE\) model of carcinogenesis](#). Invited presentation, *Society for Risk Analysis 2007 Annual Meeting*. San Antonio, Texas. December 9-12, 2007. <http://birenheide.com/sra/2007AM/program/>
175. Cox, Tony; Urban, Hans-Joerg..[Multilevel biologically-based dose-response modeling of complex diseases: Lung cancer and COPD as examples](#). *Society for Risk Analysis 2007 Annual Meeting*.San Antonio, Texas. December 9-12, 2007. <http://birenheide.com/sra/2007AM/program/>
176. Cox, Tony. BSE Risk in the US: Update. Invited presentation, *R-CALF Annual Convention*, Omaha, NE. February 21, 2008. www.r-calfusa.com/convention/2008convention.htm
177. Cox, Tony. Data mining and modeling to maximize customer lifetime value. Invited lecture in Business Intelligence, Leeds School of Business, University of Colorado at Boulder. April 23, 2008.
178. Cox, Tony. Hormesis without cell killing in a competing-risks model of carcinogenesis. Presentation at *Dose-Response 2008*.University of Massachusetts at Amherst. April 30, 2008. http://www.dose-response.org/conference/2008/Conference_Program_2008.pdf.
179. Cox, Louis A. How can statisticians help improve the quality of construction defect litigation? Invited presentation, *Joint Statistical Meetings (JSM) 2008*. Denver, Colorado. August 5, 2008.

www.amstat.org/meetings/jsm/2008/onlineprogram/index.cfm?fuseaction=abstract_details&abstractid=301900

180. Cox, Tony. Improving RAMCAP™ and TVC Terrorism Risk Analysis. Invited presentation, *Chief of Naval Operations' Distinguished Fellow Program: Critical Infrastructure Workshop*. Naval Postgraduate School. Monterey, CA. August 14, 2008.
181. Cox, Tony. Short Course on Causality and Decision Analysis for Risk Analysts. *Australia & New Zealand Regional Organisation of the Society for Risk Analysis. 3rd Annual Conference*. Canberra, Australia. September 29, 2008.
<http://www.acera.unimelb.edu.au/sra/SRA2008/Abstract-program.pdf>
182. Cox, Tony. Some limitations of “Risk = Threat x Vulnerability x Consequence” for risk analysis of terrorist attacks. *Australia & New Zealand Regional Organisation of the Society for Risk Analysis. 3rd Annual Conference*. Canberra, Australia. September 30, 2008. <http://www.acera.unimelb.edu.au/sra/SRA2008/Abstract-program.pdf>
183. Cox, Tony. Some limitations of elicited probabilities for terrorism risk assessment. *Australia & New Zealand Regional Organisation of the Society for Risk Analysis. 3rd Annual Conference*. Canberra, Australia. October 1, 2008.
<http://www.acera.unimelb.edu.au/sra/SRA2008/Abstract-program.pdf>
184. Cox Louis A Jr. [Game theory models of telecommunications networks resilient against terrorist attacks](#). *INFORMS Annual Meeting 2008* Washington, DC. October 13, 2008
<https://informs.emeeetingsonline.com/emeetings/formbuilder/clustersessiondtl.asp?csnno=8108&mmnno=176&ppnno=33560>
185. Cox Louis A Jr. [Predicting and controlling customer churn on multiple time scales](#). *INFORMS Annual Meeting 2008* Washington, DC. October 14, 2008
<https://informs.emeeetingsonline.com/emeetings/websitepapersv2.asp>
186. Cox Louis A Jr. Designing networks to withstand terrorist attacks. Invited presentation, *Society for Risk Analysis 2008 Annual Meeting*. Westin Boston Waterfront Hotel. Boston, MA. December 7-10, 2008.
http://www.sra.org/docs/Final_Binder_1.pdf
187. Cox Louis A Jr. Risk management priority rankings are ineffective: A call for change. *INFORMS Roundtable Winter Meeting*. Hyatt Regency San Antonio, Texas. February 22-23, 2009
www.informs.org/site/roundtable/index.php?c=17&kat=Meetings&&p=6
188. Cox, Tony. Rethinking risk analysis: Outsmarting adaptive attackers. Invited tutorial. *Military Operations Research Society (MORS) Workshop: Risk-Informed*

- Decision-Making for Homeland Security Allocation*. ANSERConferenceCenter. Shirlington, VA. April 13, 2009. <http://www.mors.org/risk/agenda.pdf>
189. Cox, Tony. Risk analysis: Traditional and current approaches. Invited presentation. *Military Operations Research Society (MORS) Workshop: Risk-Informed Decision-Making for Homeland Security Allocation*. ANSERConferenceCenter. Shirlington, VA. April 14, 2009. <http://www.mors.org/risk/agenda.pdf>
190. Cox, Tony. Fixing broken risk management processes. Invited presentation. *INFORMS Practitioners Meeting*, Phoenix Sheraton, Phoenix, Arizona, April 27, 2009. <http://meetings.informs.org/Practice09/risk.html>
191. Cox, Tony. Customer data mining, modeling, and optimization of lifetime value. Invited lecture in Business Intelligence, Leeds School of Business, University of Colorado at Boulder. April 28, 2009.
192. Cox, Tony. Theories and realities of risk modeling. Invited presentation to the *Committee to Review the Department of Homeland Security's Approach to Risk Analysis*. National Academy of Sciences, Washington, D.C. May 21, 2009.
193. Cox, Anthony. Health risk assessment and modeling. Invited keynote address, *Quality Risk Management – Implementation Strategies. A Joint FDA/CDER and URICollege of Pharmacy Conference*. Hyatt Regency, Bethesda MD. June 15-16, 2009.
194. Cox, Louis A. What's wrong with hazard-ranking systems? Invited presentation, [Section on Statistics in Defense and National Security](#) 2009 Joint Statistical Meeting. August 5, 2009. Washington, D.C. http://www.amstat.org/meetings/jsm/2009/onlineprogram/index.cfm?fuseaction=abstract_details&abstractid=302910
195. Cox, Tony. Using risk analysis models to improve decisions: From good intentions to good results. Invited talk, RockyMountain INFORMS Kickoff Meeting. Tivoli Student Union Building, Denver, CO. September 24, 2009. <http://www-math.cudenver.edu/events/QueryEvent.php?eid=650>
196. Cox, Tony. Advances in health risk assessment and modeling. Four invited lectures presented at Risk Assessment Unit at Evira (Finnish Food Safety Authority) Helsinki. October 22-23, 2009. http://www.evira.fi/attachments/programras2009_2.pdf
196. Cox, Tony. Quantifying potential human health risks from tetracycline use in food animals. Invited talk presented at FDA Center for Veterinary Medicine. November 12, 2009.
197. Cox, Tony. Use of mode-of-action in risk assessment. Invited presentation, *Society for Risk Analysis 2009 Annual Meeting*. Baltimore. December 7, 2009.

<http://birenheide.com/sra/2009AM/program/single-session.php3?sessid=M4-C&order=1#1> .

198. Cox, Tony. Validating Tox 21C Testing. Invited panel presentation. *21st Century Validation Strategies for 21st Century Tools*. July 14, 2010 Baltimore, MD. <http://caat.jhsph.edu/programs/workshops/july13validation.htm>
199. Cox, L. Anthony, Jr. Limits of Predictability. Invited presentation to National Academy of Sciences, Committee on Mathematical Foundation of Verification, Validation, and Uncertainty Quantification. Keck Building, Washington D.C. August 24, 2010.
<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=4478>
200. Cox, Tony. Decisions Without Consequence Probabilities. Invited presentation to OPTTEK. Boulder, Co. September 7, 2010.
201. Cox, Tony. Making Sustainability More Sustainable in a Risky World. *INFORMS Annual Meeting 2010*. Austin, TX. November 9, 2010.
<http://meetings2.informs.org/Conf/Austin2010/images/split%20pdfs/tracks/Austin%20Service%20Science%20Sections.pdf>
202. Cox, Tony. Creating Customer Satisfaction: A Causal Engineering Approach. Invited Keynote Address. C5 Fall Meeting. The CableCenter. Denver, CO. November 15, 2010.
203. Cox, Tony. [Models and Mechanisms of Dose-Response Thresholds for Particulate and Nanoparticle-Induced Inflammatory Lung Diseases and Lung Cancer](#). *Society for Risk Analysis 2010 Annual Meeting*. Salt Lake City. December 7, 2010.
<http://birenheide.com/sra/2010AM/program/single-session.php3?sessid=T2-G>
204. Cox, Tony. MSHA's Draft Quantitative Risk Assessment (QRA) of RCMD: Current flaws and possible fixes. Presentation at Mine Safety and Health (MSHA) Public Hearing. Arlington, VA. 2-15-2011. www.msha.gov/REGS/Comments/2010-25249/Transcripts/20110215ArlingtonVA.pdf pp 77-104 and cf p. 243
205. Cox, Tony. Operations Research in Today's Economy. Invited talk and panel discussion, First ORC Day, MIT Operations Research Center. October 15, 2011.
206. Cox, Tony. Principles of Microbial Risk Analysis. Invited lecture. University of Colorado Health Sciences Center. November 1, 2011.
207. Cox LA Reassessing the evidence on health benefits of cleaning air. *Society for Risk Analysis 2011 Annual Meeting*. Charleston, SC. December 7, 2011.
<http://birenheide.com/sra/2011AM/program/single-session.php3?sessid=W3-I&order=1#1>

208. Cox, Tony. Developing better risk management decision processes for real people. Invited presentation and panel discussion. *Society for Risk Analysis 2011 Annual Meeting*. Charleston, SC. December 5, 2011.
<http://birenheide.com/sra/2011AM/program/singlesession.php3?sessid=M4-F>
209. Cox, Tony. Improving broken risk management decision processes. Invited talk, School of Industrial and Systems Engineering, University of Oklahoma. April 20, 2012.
210. Cox, Tony. Causality for risk analysis. Invited talk at *Workshop on Foundational Issues in Risk Assessment and Management*. Hotel Laurin in Salo, Milano, Italy 3-4 August 2012. <http://www.lgi.ecp.fr/~li/materials/workshop-agenda-aug2012-2-alt-30july.pdf>
211. Cox, Tony. Extending decision theory to address practical risk analysis problems. Invited talk at *Workshop on Foundational Issues in Risk Assessment and Management*. Hotel Laurin in Salo, Milano, Italy 3-4 August 2012. <http://www.lgi.ecp.fr/~li/materials/workshop-agenda-aug2012-2-alt-30july.pdf>
212. Cox, Tony. Causal modeling vs. wishful thinking in public health policy. Invited talk, Rocky Mountain INFORMS Chapter Meeting, University of Colorado at Denver, September 19th 2012. <http://www.informs.org/Community/Rocky-Mountain-Chapter>
213. Cox, Tony. How should communities manage catastrophic risks? 7th Annual DFG-NSF Conference - Reckoning with the Risk of Catastrophe. October 3-5, 2012 Washington DC. <http://dfg-nsf2012.mit.edu/wp-content/uploads/2012/09/Conference-brochure.pdf>
214. Cox, Tony. Toward more useful decision analysis for real people. Invited talk presented at University of Colorado at Denver School of Business. Denver, CO. November 3, 2012
215. Cox, Tony. Improving risk management comparisons and decisions. Invited webinar, The Society of Information Risk Analysts. November 8, 2012.
<https://www.societyinforisk.org/content/save-date-tony-cox-present-siras-november-webinar>; <http://vimeo.com/53151221>
216. Cox, Tony. Warmer is healthier: Effects on mortality rates of changes in average fine particulate matter (PM2.5) concentrations and temperatures in 100 U.S. cities. *Society for Risk Analysis 2012 Annual Meeting*. San Francisco. December 12, 2012. <http://birenheide.com/sra/2012AM/program/singlesession.php3?sessid=W3-K>
217. Cox, Tony. Predictive and prescriptive analytics for increasing customer satisfaction. Rocky Mountain INFORMS Chapter Meeting, University of Colorado

at Denver, January 23rd 2013. <http://www.informs.org/Community/Rocky-Mountain-Chapter>

218. Cox, Tony. Improving causal analysis in risk-cost-benefit analysis. Invited presentation, Fifth Annual Meeting of the Society for Benefit-Cost Analysis. Washington, D.C. February 21, 2013.
http://benefitcostanalysis.org/system/files/SBCA13%20Panel%20Schedule_01%2022%202013.pdf
219. Cox, Tony. Improving causal inference in air pollution risk analysis. Webinar for American Chemistry Council (ACC) members. June 21, 2013
220. Popken DA, Cox T. The good, the bad, and the ugly: How and how not to do quantitative risk analysis of food safety. Rocky Mountain INFORMS Chapter Meeting, University of Colorado at Denver, September 20, 2013.
<http://www.informs.org/Community/Rocky-Mountain-Chapter>
221. Cox, T. [How much have historical reductions in air pollution affected mortality rates?](#) Invited presentation, Workshop on Retrospective Review of Risk-Based Regulations. Workshop sponsored by The George Washington University Regulatory Studies Center and National Capital Area Chapter of the Society for Risk Analysis. Washington, D.C. September 27, 2013.
222. Cox, T. Evidence on causality in PM2.5 health effects studies. Invited presentation, Workshop on Retrospective Review of Risk-Based Regulations. Workshop on Health Effects Associated with Elevated Levels of PM2.5. Sheraton, Crystal City, VA. October 22, 2013.
223. Cox, T. [Adapting risk management to reduce regret.](#) *Society for Risk Analysis 2013 Annual Meeting.* Baltimore, MD. December 9, 2013.
224. Cox, T. [Possible futures for Risk Analysis.](#) *Society for Risk Analysis 2013 Annual Meeting.* Baltimore, MD. December 10, 2013.
225. Cox, T. [Have historical reductions in ozone and fine particulate matter caused reductions in mortality rates?](#) *Society for Risk Analysis 2013 Annual Meeting.* Baltimore, MD. December 11, 2013.
226. Cox, LA, Jr. and Popken, DA. Present invited paper on “How well can *in vitro* assays predict *in vivo* results?” at FutureTox II: In Vitro Data and In Silico Models for Predictive Toxicology. January 16–17, 2014 Chapel Hill, North Carolina
https://www.toxicology.org/ai/meet/cct_futureToxII.asp
227. Cox, T. [Benefits and importance of data sharing.](#) Invited presentation at Institute of Medicine (IOM) [Workshop on Principles and Best Practices for Sharing Data from Environmental Health Research.](#) National Academy of Sciences Building,

Washington, D.C. March 19,
2014.<https://www.youtube.com/watch?v=iYxLO8tTvl8>

228. Cox, LA Jr. [Overcoming learning-aversion in evaluating and managing uncertain risks](#). Paper presented at the [Conference on Risk, Perception, and Response](#). Harvard Center for Risk Analysis. Harvard School of Public Health. Boston, MA. March 20-21, 2014.
229. Cox, T. [Intergenerational justice in resilience investments with uncertain future preferences and resources](#). Invited presentation, International Conference on the Societal Risk Management of Natural Hazards (ICSRM). Hotel and Conference Center University of Illinois at Urbana-Champaign April 17-18, 2014.
230. Cox T. [Reducing over-valuation of risk regulations with highly uncertain benefits](#). *Society for Risk Analysis 2014 Annual Meeting*. Denver, CO. December 8, 2014.
231. Cox T. [Vision and scope for Risk Analysis: An International Journal](#). Invited presentation and panel discussion, *Society for Risk Analysis 2014 Annual Meeting*. Denver, CO. December 9, 2014.
232. Cox, T. Intelligent adversary risk analysis. Invited presentation, Risk Speaker Series, Sandia National Laboratory, Livermore, CA. March 31, 2015.
233. Cox LA. Academic publishing. Invited presentation and panel discussion, Auraria Campus Library. Denver, CO. April 9, 2015.
234. Cox LA. Improving regulatory science. Invited presentation to Board of Mathematical Sciences and their Applications. National Academy of Sciences. Washington, D.C. May 8, 2015.
235. Cox T. Estimating and validating causal concentration-response relations for PM2.5 from data. Invited talk, 41st Annual Summer Meeting of The Toxicology Forum. The Cheyenne Mountain Resort. Colorado Springs, Colorado. July 14, 2015.
236. Cox T. [Simple displays of complex risk information: Beyond risk matrices](#). Invited Webinar, Society for Risk Analysis. August 27, 2015.
237. Cox, T. Applied Risk Analytics. Invited seminar, University of Colorado Department of Mathematics. September 29, 2015.
238. Cox, T. From complex data to complex decisions. Invited talk, National Academy of Sciences, Board of Mathematical Sciences and their Applications. Washington, D.C. October 23, 2015.

239. Cox, T. [Causal analytics for improving risk regulation](#). *Society for Risk Analysis 2015 Annual Meeting*. Arlington, VA. December 9, 2015.
240. Cox, T. Integrity in Publishing for Scientific Risk Analysis. Invited presentation and panel discussion. *Society for Risk Analysis 2015 Annual Meeting*. Arlington, VA. December 9, 2015
241. Cox, T. Using risk-cost-benefit analysis to improve gain-of-function research decisions. Invited presentation at [Second NAS Symposium on Gain-of-Function Research](#). Washington, DC. March 10, 2016
242. Cox, T. Society for Risk Analysis Webinar - A Causal Analytics Toolkit (CAT) for assessing exposure-response relations in epidemiological data. June 29, 2016 <https://www.youtube.com/watch?v=6EUA03NQ85I&feature=youtu.be>
243. Cox, T. Applied risk analytics: Making advanced analytics more useful. Invited Inaugural Distinguished Lecture in Operations Research. Naval Postgraduate School (NPS). Monterey CA. August 4, 2016
244. Cox, T. A Causal Analytics Toolkit (CAT) for assessing causal relations in data. Invited lecture, University of Colorado at Denver, School of Business, September 13, 2016
245. Cox, LA Jr. Probabilistic causation, regulation, and the courts. Law & Economics Center, George Mason University Antonin Scalia Law School. Searle Civil Justice Institute Research Roundtable on Judicial Review of Regulatory Evidence. Wednesday, November 16, 2016
246. Cox T. [Automating causal judgments in risk analysis](#). Invited presentation and panel discussion. *Society for Risk Analysis 2016 Annual Meeting*. San Diego, CA December 12, 2016
247. Cox TL, Popken DA, Kaplan AM, Plunkett LM, Becker RA. [How well do high throughput screening \(HTS\) assay data predict *in vivo* rodent carcinogenicity of pesticides?](#) Invited presentation and panel discussion. *Society for Risk Analysis 2016 Annual Meeting*. San Diego, CA December 14, 2016. (Presented by co-author Dr. Laura Plunkett)
248. Cox T. [More objective causal interpretation of exposure-response data](#). Invited presentation and panel discussion. *Society for Risk Analysis 2016 Annual Meeting*. San Diego, CA December 12, 2016
249. Cox T. [Causal Analytics for Benefit-Cost Analysts: What Effects do Policies Cause?](#) Society for Benefit-Cost Analysis (SBCA) 2017 Workshop. George Washington University Marvin Center, Washington, D.C. March 15, 2017.

250. Cox, T. [Adaptive benefit-cost analysis for changing a few of many causes](#). Society for Benefit-Cost Analysis (SBCA) 2017 Conference. George Washington University Marvin Center, Washington, D.C. March 16, 2017.
251. Cox, T. [Evidence-based policy: What constitutes valid evidence of policy effects?](#) Society for Benefit-Cost Analysis (SBCA) 2017 Conference. George Washington University Marvin Center, Washington, D.C. March 16, 2017.
252. Cox, Louis Anthony (Tony), Jr. [Progress in risk science and causality](#). Invited presentation for Topical Session: New Developments in Risk Science and Causality. Association of Air Pollution Control Agencies. AAPCA 2017 Spring Meeting. Hilton Tucson East Hotel. Tucson, Arizona. March 27, 2017.
253. Cox, LA Jr. A primer on the scientific method. Invited lecture. [Symposium for judges on judicial deference and regulatory agency science](#). George Mason University Antonin Scalia Law School. October 6, 2017.
254. Cox, LA Jr. Understanding what science can and cannot do. Invited lecture. [Symposium for judges on judicial deference and regulatory agency science](#). George Mason University Antonin Scalia Law School. October 6, 2017.
255. Cox, T. [Using statistical inference to support decision-making](#). Invited talk, American Statistical Association Symposium on Statistical Inference. *Scientific Method for the 21st Century: A World Beyond $p < 0.05$* . Hyatt Regency. Bethesda, MD. October 11, 2017.
256. Cox, T. [Overcoming confirmation bias and p-hacking](#). Invited talk, American Statistical Association Symposium on Statistical Inference. *Scientific Method for the 21st Century: A World Beyond $p < 0.05$* . Hyatt Regency. Bethesda, MD. October 12, 2017.
257. Cox, T. [Biomathematical mechanisms of non-linear dose-response for respirable elongated mineral particles](#). Invited Talk, Monticello Conference. Charlottesville, VA. October 18, 2017.
258. Cox, T. Causal analytics for risk management: Making advanced analytics more useful. [Wilbert Steffy Distinguished Lecture](#). Department of Industrial Engineering and Operations Research. University of Michigan. November 10, 2017.
259. Cox, T. What is an effect? Invited presentation and panel discussion. *Society for Risk Analysis 2017 Annual Meeting*. Alexandria, VA December, 2017.

260. Cox, T. [Predicting and evaluating changes in health risks caused by changes in air pollution](#). Invited presentation and panel discussion. Health Effects Institute 2018 Conference, Pre-Conference Workshop on Causal Modeling in Air Pollution Research and Policy. Chicago, IL April 29, 2018.
261. Cox, T. Perspectives from other causal research. Invited presentation. [Symposium on Causal Methods in Epidemiological Studies of Particulate Matter and Mortality](#). Rizzo Conference Center. University of North Carolina. October 4, 2018
262. Cox, T. [Is low-dose metabolism of benzene by workers more efficient at very low exposure concentrations?](#) Invited presentation, *Society for Risk Analysis 2018 Annual Meeting*. New Orleans, LA December 3, 2018.
263. Cox, T. When is transparency desirable? Invited presentation, *Society for Risk Analysis 2017 Annual Meeting*. New Orleans, LA December 4, 2018.
264. Cox, T. [Managing large-scale uncertain risks via muddling-through and deep learning](#). Invited presentation, *Society for Risk Analysis 2017 Annual Meeting*. New Orleans, LA December 5, 2018
265. Cox, T. Risk analytics: What can data tell us about risk management? Invited plenary talk. Society for Risk Analysis 2019 Annual Meeting. Arlington, VA. December 9, 2019.
266. Cox, T. Invited panelist. [Roundtable: Current Foundational Issues in the Field of Risk Analysis](#). Society for Risk Analysis 2019 Annual Meeting. Arlington, VA. December 9, 2019.
267. Cox, T. [Causal possibility for risk analysis with limited causal knowledge](#). Society for Risk Analysis 2019 Annual Meeting. Arlington, VA. December 11, 2019.
268. Cox LA Jr. [Causality, reproducibility, and scientific generalization in public health](#). Invited talk, Fixing Science: Practical Solutions for the Irreproducibility Crisis. National Association of Scholars Conference. Independent Institute. Oakland, CA February 8, 2020. www.youtube.com/watch?v=ltUXvbYO1Rg.
269. Cox T. Independent Science Advisors' Recommendations to EPA on the Ozone and PM NAAQS Reviews: A Report from the CASAC Chair. Invited talk. National Association of Clean Air Agencies Virtual Spring Meeting MAY 18-19, 2020

