

Curriculum Vitae

ROBERT T. CLEMEN

3/8/2016

CONTACT INFORMATION

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EDUCATION

- PhD, Indiana University
- MBA, University of Colorado, Colorado Springs
- BA: Stanford University

PROFESSIONAL EXPERIENCE

- 2011-present. Professor Emeritus of Decision Sciences, Fuqua School of Business, Duke University
- 1995-2011. Associate and Full Professor of Decision Sciences, Fuqua School of Business, Duke University
- 1994-1997. Senior Scientist, Applied Decision Analysis, Inc., Menlo Park, CA
- 1993-1995. Senior Researcher, Decision Research, Eugene, OR
- 1989-1990. Visiting Associate Professor, Fuqua School of Business, Duke University
- 1984-1995. Assistant and Associate Professor of Decision Sciences, Lundquist School of Business, University of Oregon

AWARDS AND HONORS

RESEARCH AND PUBLICATION AWARDS

- Ramsey Medal, 2012. Lifetime achievement award by the Decision Analysis Society (INFORMS).
- Decision Analysis Publication Awards, Decision Analysis Society (INFORMS):
 - Fox, C. R., & Clemen, R. T. (2005). Subjective probability assessment in decision analysis: Partition dependence and bias toward the ignorance prior. *Management Science* 51, 1417-1432.
 - Clemen, R. T., (1991). *Making Hard Decisions: An Introduction to Decision Analysis*, Boston, MA: PWS-Kent
 - Clemen, R. T., & Winkler, R. L. (1990). Unanimity and compromise among probability forecasters. *Management Science* 36, 767-779.
- Forecasting Publication Award, International Institute of Forecasting:
 - R. T. (1989) Combining forecasts: A review and annotated bibliography. *International Journal of Forecasting* 5, 559-583.

TEACHING AWARDS

- Page Prize for Sustainability Curriculum, Honorable Mention, 2010

- Outstanding Professor, Fuqua Global Executive MBA, 2000
- Outstanding Professor, Honorable Mention, Fuqua Global Executive MBA, 1997, 2001.
- Outstanding Teacher Award, MBA Program, U. of Oregon, 1987

PUBLICATIONS

BOOKS

- Clemen, R. T., & Reilly, T. (2014). *Making Hard Decisions with DecisionTools, 3rd Edition*. Mason, OH: South-Western. First edition 2001, Pacific Grove, CA: Duxbury Press.
- Clemen, R. T. (1996). *Making Hard Decisions: An Introduction to Decision Analysis, 2nd Edition*. Belmont, CA: Duxbury Press. First edition 1991, Boston, MA: PWS-Kent Publishing Co.
- Gregory, R., Clemen, R. T., Satterfield, T., & Stone, T. (1996). *Creative Decisionmaking: A Curriculum Materials Guide for Secondary-School Educators*. Eugene, OR: Decision Research.

REFEREED JOURNAL ARTICLES AND BOOK CHAPTERS

- Prava, V., Clemen, R., Hobbs, B., Kenny, M. (2016) Partition dependence and carryover biases in subjective probability assessment surveys for continuous variables: Model-based estimation and correction. *Decision Analysis*, 13, 51-67.
- Lantos, P., Brinkerhoff, R., Wormser, G., Clemen, R. (2013) Empiric antibiotic treatment of erythema migrans-like skin lesions as a function of geography: A clinical and cost effectiveness modeling study. *Vector-Borne and Zoonotic Diseases*, 13, 877-883.
- Mendoza, A., Clemen, R. (2013) Outsourcing sustainability efforts: A game-theoretic modeling approach. *Environment, Systems, and Decisions* 33, 224-236.
- Anderson, R., Clemen, R. (2013) Toward an improved methodology to construct and reconcile decision analytic preference judgments. *Decision Analysis* 10, 121-134.
- Page, L., Clemen, R. (2013). Do prediction markets produce well calibrated probability forecasts? *The Economic Journal* 123, 491-513.
- Clemen, R. T., & Smith, J. (2009). On the choice of baselines in multiattribute portfolio analysis: A cautionary note. *Decision Analysis* 6, 256-262.
- Poland, B., Hodge, F. L., Khan, A., Clemen, R. T., Wagner, J. A., Dykstra, K., Krishna, R. (2009). The clinical utility index as a practical multiattribute approach to drug development decisions. *Clinical Pharmacology and Therapeutics* 86, 105-108.
- Clemen, R. T. (2008). Improving and measuring the effectiveness of decision analysis: Linking decision analysis and behavioral decision research. Book chapter, In: T. Kugler, J. C. Smith, T. Connolly, and Y.-J. Son (Eds.) *Decision modeling and behavior in complex and uncertain environments*. New York: Springer, 3-31.
- Clemen, R. T. (2008). Comment on Cooke's classical method. *Reliability Engineering and System Safety* 93, 760-765.
- Clemen, R. T., & Ulu, C. (2008). Interior additivity and subjective probability assessment of continuous variables. *Management Science* 54, 835-851.
- Clemen, R. T., & Winkler, R. L. (2007). Aggregating probability distributions. In: W. Edwards, R. Miles, & D. von Winterfeldt (Eds.) *Advances in Decision Analysis* (pp. 154-176). Cambridge, UK: Cambridge University Press.
- Fox, C. R., & Clemen, R. T. (2005). Subjective probability assessment in decision analysis: Partition dependence and bias toward the ignorance prior. *Management Science* 51, 1417-1432.

- Winkler, R. L., & Clemen, R. T. (2004). Multiple experts vs. multiple methods: Combining correlation assessments. *Decision Analysis* 1, 167-176.
- Clemen, R. T. (2002). Incentive contracts and strictly proper scoring rules. *Test* 11, 195-217.
- Clemen, R. T. (2001). Naturalistic decision making and decision analysis, *Journal of Behavioral Decision Making* 14, 359-361.
- Clemen, R. T., & Kwit, R. (2001). The value of decision analysis at Eastman Kodak Company, 1990-1999. *Interfaces* 31 (Sept-Oct), 74-92.
- Clemen, R. T. (2001). Simple versus complex methods. *International Journal of Forecasting* 17, 549-550.
- Clemen, R. T., & Lacke, C. J. (2001). Analysis of colorectal cancer screening regimens. *Health Care Management Science* 4, 257-267.
- Borsuk, M., Clemen, R. T., Maguire, L., & Reckhow, K. (2001). Stakeholder values and scientific modeling in the Neuse River watershed. *Group Decision and Negotiation* 10, 355-373.
- Clemen, R. T., Fischer, G. W., & Winkler, R. L. (2000). Assessing dependence: Some experimental results. *Management Science* 46, 1100-1115.
- Clemen, R., Gregory, R. (2000) Preparing adult students to be better decision makers. In: I. Gal (Ed.) *Adult numeracy education: Theory, research, practice* (pp. 73-86). Cresskill, NJ: Hampton Press.
- Sendi, P. P., & Clemen, R. T. (1999). Sensitivity analysis on a chance node with more than two branches. *Medical Decision Making* 19, 499-502.
- Clemen, R. T., & Winkler, R. L. (1999). Combining probability distributions from experts in risk analysis. *Risk Analysis* 19, 187-203.
- Clemen, R. T., & Reilly, T. (1999). Correlations and copulas for decision and risk analysis. *Management Science* 45, 208-224.
- Clemen, R. T. (1998). System models for decision making. In: R. C. Dorf (Ed.) *The Technology Management Handbook* (p 9-6 through 9-11). CRC Press, Boca Raton, FL.
- Jouini, M. N., & Clemen, R. T. (1996). Copula models for aggregating expert opinions. *Operations Research* 44, 444-457.
- Clemen, R. T., Jones, S. K., & Winkler, R. L. (1996). Aggregating forecasts: An empirical evaluation of some Bayesian methods. In: D. Berry, K. Chaloner, & J. Geweke (Eds.) *Bayesian Statistics and Econometrics: Essays in Honor of Arnold Zellner* (pp. 3-13). New York: Wiley.
- Clemen, R. T., Murphy, A. H., & Winkler, R. L. (1995). Screening probability forecasts: Contrasts between choosing and combining. *International Journal of Forecasting* 11, 133-146.
- Miklas, M., Norwine, J., DeWispelare, A., Herren, L., & Clemen, R. (1995). Future climate at Yucca Mountain, Nevada proposed high-level radioactive waste repository. *Global Environmental Change* 5, 221-234.
- DeWispelare, A., Herren, L., & Clemen, R. T. (1995). The use of probability elicitation in the high-level nuclear waste regulation program. *International Journal of Forecasting* 11, 5-24.
- Frisch, D., & Clemen, R. T. (1994). Beyond expected utility: Rethinking behavioral decision research. *Psychological Bulletin* 116, 46-54.
- Burns, W. J., & Clemen, R. T. (1993). Covariance structure models and influence diagrams. *Management Science* 39, 816-834.
- Clemen, R. T. (1993). Comment on 'A randomization rule for selecting forecasts.' *Operations Research* 41, 801-802.

- Clemen, R. T., & Winkler, R. L. (1993). Aggregating point estimates: A flexible modeling approach. *Management Science* 39, 501-515.
- Miller, C. M., Clemen, R. T., & Winkler, R. L. (1992). The effect of nonstationarity on combined forecasts. *International Journal of Forecasting* 7, 515-529.
- Winkler, R. L., & Clemen, R. T. (1992). Sensitivity of weights in combining forecasts. *Operations Research* 40, 609-614.
- Clemen, R. T., & Winkler, R. L. (1990). Unanimity and compromise among probability forecasters. *Management Science* 36, 767-779.
- Clemen, R. T., & Murphy, A. H. (1990). The expected value of frequency calibration. *Organizational Behavior and Human Decision Processes* 46, 102-117.
- Clemen, R. T. (1989). Combining forecasts: A review and annotated bibliography (with discussion). *International Journal of Forecasting* 5, 559-583.
- Clemen, R. T., & Guerard, J. B. (1989). Econometric GNP forecasts: Incremental information relative to naive extrapolation. *International Journal of Forecasting* 5, 417-426.
- Guerard, J. B., & Clemen, R. T. (1989). Collinearity and the use of latent root regression for combining GNP forecasts. *Journal of Forecasting* 8, 231-238.
- Murphy, A. H., Chen, Y.-S., & Clemen, R. T. (1988). Statistical analysis of interrelationships between objective and subjective temperature forecasts. *Monthly Weather Review* 116, 2121-2131.
- Clemen, R. T., & Winkler, R. L. (1987). Calibrating and combining precipitation probability forecasts. In: R. Viertl (Ed.) *Probability and Bayesian Statistics* (pp. 97-110). New York: Plenum.
- Clemen, R. T. (1987). Combining overlapping information. *Management Science* 33, 373-380.
- Clemen, R. T. (1986b). Linear constraints and the efficiency of combined forecasts. *Journal of Forecasting* 5, 31-38.
- Clemen, R. T., & Murphy, A. H. (1986b). Objective and subjective precipitation probability forecasts: Statistical analysis of some interrelationships. *Weather and Forecasting* 1, 56-65.
- Clemen, R. T., & Murphy, A. H. (1986a). Objective and subjective precipitation probability forecasts: Some methods for improving forecast quality. *Weather and Forecasting* 1, 213-218.
- Clemen, Robert T. (1986a). Calibration and the aggregation of probabilities. *Management Science* 32, 312-314.
- Clemen, R. T., & Winkler, R. L. (1986). Combining economic forecasts. *Journal of Business and Economic Statistics* 4, 39-46.
- Clemen, R. T. (1985). Extraneous expert information. *Journal of Forecasting* 4, 329-348.
- Clemen, R. T., & R. L. Winkler. (1985). Limits for the precision and value of information from dependent sources. *Operations Research* 33, 427-442.

OTHER PUBLICATIONS

- National Research Council (2007). *Models in Environmental Regulatory Decision Making*. Washington, DC: National Academies Press.
- Clemen, R. T. (2004). Assessing risk tolerance. *Decision Analysis Society Newsletter* 23 (March), 4-5.
- Clemen, R. T. (2001). Assessing 10-50-90s: A surprise. *Decision Analysis Society Newsletter* 20, (April), 2,15.
- A. DeWispelare, Clemen, R., Herren, L., & Bonano, E. (1994). Background report on the use and elicitation of expert judgment. San Antonio, TX: Center for Nuclear Waste Regulatory Analyses. Report CNWRA 94-019.

- Clemen, R. T. (1994). On value-focused thinking. *Sloan Management Review* 36 (1), 5.
- Clemen, R. T. (1993). Class seeks decision-based solutions to homelessness. *Eugene Register-Guard*, April 22, 1993.
- Clemen, R. T. (1993). Combining forecasts: Progress since 1989. *The Forum, Newsletter of the International Association of Business Forecasting and the International Institute of Forecasters* 6(3), 11.
- A. DeWispelare, Clemen, R., Herren, L., & Miklas, M. (1993). Expert elicitation of future climate in the Yucca Mountain vicinity: Iterative performance assessment phase 2.5. San Antonio, TX: Center for Nuclear Waste Regulatory Analyses. Report CNWRA 93-016.
- Clemen, R. T., Murphy, A. H., & Winkler, R. L. (1992). Combining versus choosing: Implications for forecast evaluation." *Preprints of the Twelfth Conference on Probability and Statistics in the Atmospheric Sciences*. Boston: American Meteorological Society, 1992, J50-J57. Also in *Preprints of the Fifth International Meeting on Statistical Climatology*. Toronto, 1992, J50-J57.
- Clemen, R. T. (1992). Combining forecasts: An overview. *Preprints of the Twelfth Conference on Probability and Statistics in the Atmospheric Sciences*. Boston: American Meteorological Society, 1992, J43-J44. Also in *Preprints of the Fifth International Meeting on Statistical Climatology*. Toronto, 1992, J43-J44.
- Clemen, R. T. (1989). Decision making with the Macintosh. *Wheels for the Mind*, 5(1), 48-52.
- Clemen, R. T. (1976). Prehistoric social organization on Black Mesa. In: G. Gumerman, R. Euler (Eds.) *Papers on the Archaeology of Black Mesa, Arizona* (pp. 113-136). Carbondale, IL: SIU Press.

COURSES TAUGHT

- Decision Analysis* (Undergraduate, MBA, PhD)
- Decision Models* (MBA)
- Negotiations* (MBA)
- Forecasting* (MBA)
- Environmental Sustainability: Modeling and Analysis* (MBA)
- Statistics* (Undergraduate, MBA, PhD)

SELECTED SERVICE ACTIVITIES

PROFESSIONAL ORGANIZATIONS AND ACTIVITIES

- Chair, *Decision Analysis* Editor Search Committee, INFORMS. 2012.
- Editorial Board member, *European Journal on Decision Processes*. 2012-present.
- Fellow, Society of Decision Professionals. 2011-present.
- National Biodiesel Board Sustainability Task Force, Advisory Committee member. 2008-2009.
- Editorial Board Member, *Decision Analysis*, 2007-present.
- National Academy of Sciences Committee on Model Use for Regulatory Decision Making, 2004-2007.
- Founding Co-Editor, *Decision Analysis* (co-editor with Don Kleinmuntz), 2001-2006.
- Member, Harvard Center for Risk Analysis Advisory Committee, Harvard University 1999-2001.
- Associate Editor, *International Journal of Forecasting*, 1992-1996.
- Departmental Editor (Decision Analysis), *Management Science*, 1992-1995.

SELECTED CONSULTING ENGAGEMENTS

- 2014. American Petroleum Institute. Analysis and critical review of USEPA proposed rule on renewable fuels.
- 2011-2012. Omaha Foreign Exchange Corporation. Decision and risk management.
- 2010. BC Hydro. Probability forecasting for customer response to demand-side management programs.
- 2009. Environmental Protection Agency. Multiattribute decision making for research proposal funding.
- 2007. Army Corps of Engineers. Reviewer for Louisiana Coastal Protection and Restoration project.
- 1999. Cadmus Group. Decision analysis support for USEPA procedures.
- 1998. EC/R Inc. Advisory role in EPA risk assessment project.
- 1997. Alceon Corporation. Mathematical statistics consultant for risk analysis project.
- 1995. Eli Lilly & Co. Provided a 2-day workshop on structuring decision models.
- 1992-1994. Southwest Research Institute, San Antonio, TX. Risk assessment regarding future climate change at Yucca Mountain, Nevada.