

Last updated Nov 16, 2024

# Curriculum Vitae Roger M. Cooke

## [Awards](#)

[Externally Supported Research Projects](#)

[Books](#)

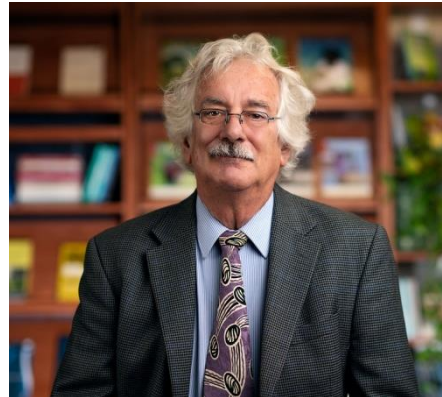
[Peer Reviewed Contract Research Reports](#)

[Refereed International Journals](#)

[Refereed Proceedings of International Conferences  
and Book Contributions](#)

[Links and Blogs](#)

[Workshops, Software Systems, Course Books,  
Reports](#)



## Bio Sketch

Roger Cooke is a senior fellow emeritus at RFF and an expert on expert judgment, uncertainty analysis, high dimensional dependence modeling and value of information, especially for climate observing satellites. Notable recent publications address [Validation of Expert Forecasters](#), [Ice Sheet Contributions to Sea Level Rise](#), [Value of Information for Climate Observing Systems](#), [Probabilistic Reasoning about Equilibrium Climate Sensitivity](#), [Global Burden of Disease](#), [Invasive Species](#), [Fat Tailed Distributions](#), [Insurance for Fat Tailed Risks](#), and [Market Methods for Valuing Uncertainty Reduction](#). He was a lead author on the chapter [Risk and Uncertainty](#) in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. His books on [Expert Judgment](#), [Risk Analysis](#) and [Dependence Modeling](#) figure prominently in two recent compendiums on [Expert Elicitation](#) and [Risk Analysis](#).

Prior to joining Resources for the Future in September 2005 as the first appointee to the Chauncey Starr Chair in Risk Analysis, Cooke was professor of applied decision theory at the Department of Mathematics at Delft University of Technology in The Netherlands. He launched a Master's Program in Risk and Environmental Modeling and led the development of Bayes Nets software [UNINET](#) for high dimensional distributions under contract with The Dutch Ministry of Environment, Shell and AIRBUS (free for academics). Graduating Phi Beta Kappa and Magna Cum Laude from Yale University (Philosophy and Mathematics), he received the Oeuvre Award for Risk Management (2005) and the Lifetime Distinguished Achievement Award (2011) from Society for Risk Analysis.

## Personal

*Born* February 9, 1946, Cincinnati, Ohio

*Nationality* U.S.A./The Netherlands

*Address* Delft University of Technology, Faculty of Electrical Engineering, Mathematics and Computer Science,  
Mekelweg 4, 2628 CD, Delft, The Netherlands.  
Resources for the Future, 1616 P st NW, Washington DC.

Married 2 children (1973, 1975)

*Email* cooke@rff.org

## Education

B.A. Yale University 1968,

Ph.D. Yale University 1974 (Philosophy and Mathematics).

## Academic honors

Phi Beta Kappa, Highest Honors in Philosophy, Magna Cum Laude (Yale University)

## Employment

Teaching assistant Yale University 1972-73 (Dept. of Philosophy)

Assistant Professor, Yale University: 1974 (Dept. of Philosophy)

Last updated Nov 16, 2024

Assistant Professor, University of Amsterdam 1975 -79(Dept. of Philosophy)  
Assistant Professor, Delft University of Technology, 1979-87 (Dept. of Philosophy)  
Associate Professor, Delft University of Technology, 1987-93 (Dept. of Mathematics).  
Professor Applied Decision Theory, 1993 – 2011 (Dept. of Mathematics).  
Professor University of Strathclyde 2013-2015 (Dept Management Science)  
Chauncey Starr Senior Fellow for Risk Analysis, Resources for the Future, 2005 - 2021

**Current areas of specialization:**

Statistical Decision Theory including:

- Risk Analysis
- Subjective Probability / Expert Judgment
- Uncertainty Analysis
- Decision Theory

**PhD Dissertations Supervised**

- Jan. M. van Noortwijk Optimal Maintenance Decisions for Hydraulic Structures Delft, 1996.
- Jan G. Norstrom Value of Information Based Design of Control Software, Delft, 2000.
- Dorota Kurowicka Techniques in Representing High Dimensional Distributions, Delft 2001.
- Bernd Kraan Probabilistic Inversion in Uncertainty Analysis Delft, 2002.
- Cornel Bunea Mathematical Models for Reliability data Delft, 2003.
- Radboud Tebbens Dynamic Risk Models for Infectious Diseases 2005.
- Daniel Lewandowski, Copulae for High Dimensional Distributions, 2003-2007.
- Anca Hanea Algorithms for Distribution –Free Bayesian Belief Nets 2004-2008.
- Oswaldo Morales, Applying continuous Bayesian Belief Nets 2004-2008.
- Pratrycja Jesionik, Bayesian Belief Nets for food Safety, 2006-2010.
- Rabin Neslo, Paired Comparisons and Probabilistic Inversion 2006-2010.

**Editor/Referee/Professional activities**

*Referee*

- Physics Letters A
- IMA Journal of Mathematics , Applied in Business and Industry.
- Reliability, Engineering and System Safety Operations Research
- European Journal of Operational Research
- Journal of the Operational Research Society
- Guest editor Delft Progress Reports, Vol. 9, nr. 2, 1984("Quantum Mechanics and Probability").
- Guest co-editor Reliability Engineering and Systems Safety, special issue on Precursor Studies, 27 (1990).
- Member Editorial Board Reliability Engineering and System Safety (1991- ).
- Chairman European Technical Committee on Uncertainty Modeling. (1993-1998)
- Guest editor Reliability Engineering and System Safety; special issue, Design of Reliability Data Bases (1996). -
- Workshop Uncertainty Modeling 24-25/3/97.
- Editorial Board Risk Analysis, 1997.
- Editorial Board Reliability Engineering and Systems Safety.
- Editor European Safety and Reliability Assoc. Newsletter (1996- 2000).
- Coordinator Masters Of Science Program Risk and Environmental Modeling (1999-).
- Member National Academy of Science, Panel Scientific review of the Proposed Risk Assessment Bulletin from the Office of Budget and Management (2006)
- Member National Academy of Science, Panel on Improving Risk Analysis Approaches Used by the US EPA
- Lead Author for Risk and Uncertainty, Intergovernmental Panel for Climate Change, 5-th Assessment

**Administrative Experience**

- Executive Faculty Council, Department of Social Sciences, TU Delft, 1981-1983 (Faculteitsbestuur)
- Coordination committee, Dept of Mathematics and Informatics, 1988 -
- Coordinator, Conditionally financed Research Project Mapob, Department of Mathematics and Informatics TU Delft, 1987-1991.
- Committee for Research and Teaching Evaluation (wetenschapsbeoefening) Department of Mathematics and Informatics 1993. – Chairman of the section Statistics, Probability and Operations Research, 1996-1998.
- Chairman Department of Control, Risk, Optimization, Stochastics, Statistics and System Theory (CROSS), Faculty of Information Technology and Systems, 1999-2003.

Last updated Nov 16, 2024

- Coordinator International Masters Program Risk and Environmental Modeling, 1999-.

## Awards

Phi Beta Kappa Yale University 1968

Magna Cum Laude Yale University 1968

Oeuvre Award for Risk Management 2005 (Society for Risk Management and Dutch Society for Risk Analysis and Reliability)

Society for Risk Analysis award for best set of papers on a common theme, 2010 (given for the paper Conundrums with Uncertainty Factors and Comments)

Lead Author for the Intergovernmental Panel for Climate Change 5-th Assessment chapter on Risk and Uncertainty, 2010.

Society for Risk Analysis Best Reviewer Award, 2011

Society for Risk Analysis Lifetime Distinguished Achievement Award 2011.

## Externally Funded Research Initiator and (joint)-coordinator:

- The Accident Sequence Precursor Methodology for the Dutch Process Industries 1/1/85-1/1/86, f 94.010, Ministry of Housing Physical Planning and Milieu).
- The use of expert opinion in safety studies 1985-1989. f 621.400, Ministry of Housing, Physical Planning and Milieu.
- Contract research IWECO Ergonomic Guidelines for Automated Control Rooms, (sub-project: using expert opinion in inspecting automated control rooms 1986, f 10.200, Ministry of Social Affairs).
- Use of Expert Judgment Data; European Space Agency: (f 175.000), 1/1/89 - 1/11/89.
- Computerized Risk Assessment: European Space Agency (f. 233.700), 1/1/89 - 1/1/90.
- Integrated Software Package for Expert Opinion in Risk Analysis, Ministry for Housing, Physical Planning & Milieu (f. 36.000), 1/11/89-1/1/90.
- Software Package for expert data evaluation and fusion commission of the European communities (f. 60.000) 1990
- Uncertainty analysis of atmospheric dispersion and the deposition codes; commission of the European communities (f 82.000) 1991
- Pilot Project Uncertainty Analysis of Dispersion & Deposition models of COSYMA Code 1-6-90, 1-6-91 fl. 60.000,-.
- Upgrade computerized Risk Assessment, European Space Agency 1991 (f. 70.000).
- Enhanced reliability methods for assessing the realization of CLUSTER mission objectives: European Space Agency, (f. 14,000) 1/9/91-1/12/91,
- Data Generation and Collection: European Space Agency (f. 232,000) 11/92- 1/1/94.
- Support to application and Development of Risk Assessment 1/1/94 - 1/6/94 ESTEC fl. 58.000.
- Pilot Proj. "Concerning Statistical analysis of maintenance performance" 1/3/94-1/6/94 fl. 12.000. Risoe, National Lab (DK).
- Further Development and Application of Risk Assessment & Integration of Safety and Reliability tasks 1/6/94 - 1/1/95 ESTEC fl. 80.000.
- Review of SKI Data Processing methodology, Swedish Nuclear Inspectorial; 1-10-94 - 1-1-95 fl. 30.000,-.
- Optimal decisions that reduce flood damage along the Meuse: an uncertainty analysis 1/4/95 - 1/11/95; fl. 100.000,-.
- Joint CEC/USNRC Uncertainty Analysis of Accident Consequence Codes.
- Idem Ph.D. project Procedures Guide for uncertainty analysis 1/1/94 - 1/1/98 fl 100.000.
- Idem Mathematical Techniques for Uncertainty analysis 1/9/92 - 31/5/94 fl. 100.000.
- Idem 1/12/93 - 1/1/95 fl. 134.000.
- GasUnie, Failure frequency for Underground Pipelines 1/1/94 - 1/6/96 fl. 150.000.
- EU Working Group Fusion 1/6/96 - 1/6/98
- Swedish Pipe failure Database Review 1/5/97 - 1/10/97 fl. 20.000,-.
- Ministry of Water: uncertainty analysis of dyk failure probabilities 1/4/97 - 21/7/97 (with HKV) fl. 86.455,-. (21/7/97 - 15/12/97 : fl. 108.695) (1/6/98 - 30/11/98 fl. 56.340)

Last updated Nov 16, 2024

- Nato Linkage Grant (01/01/99 - 31/01/01 fl. 22.000)
- Design of Uncertainty Modeling Software, HKV-Center fl. 50.000,-- (1/9/00 - 1/7/01)
- NOx Emissions RIVM fl. 50.000,-- (1/10/00 - 1/1/01)
- Project Risk and Uncertainty, Norwegian. Research council , Stavanger University. (1/1/01 - 01/01/02) fl. 13.000
- GasUnie: Model Validation, Pipeline Failure Rates, (01/03/01 - 01/05/01), fl 8000,--
- Siemens/KWU: Reliability data base design. (01/12/01)-(01/05/02), fl 35.000,--
- Schiphol, NLR Causal Models (01-12-01)-(01-11-02), 90,000 fl.
- RIVM Chicken Processing model, 10,000 e. 1/11/02 - 1/5/03
- Risk analysis of abandoned chemical weapons site 30,000e, 1/01/03 - 1/6/03.
- Gov. of Kuwait, Harvard Center for Risk, & MIT (Atmos. Chem) Health effects of fine particulate matter, 1-6-03 1-1-05, \$150,000.
- NWO (Dutch Council for Scientific Research) Copulae for High Dimensional Distributions Code: 600.065.130.01N18 2003 – 2008, supporting PhD Hanea and Lewandowski 400,000 (aprox)
- Worker Safety Models (WORMS) Min. of Soc. Affairs, 2003 – 2005, \$90,000.
- German Inst. for Coastal Research GKSS: Risk Modeling for Oil Spills 1-9-03 - 1-9-05, 45,000e.
- SwissNuclear "Review of Pegasos project on Seismic risk", 1-9-043 - 1-4-05; \$40,000
- Causal Models for Schipol Airport 1-1-05 1-1-08 \$483,000.00
- Economic Impact of Invasive Species in Great Lakes, EPA/Notre Dame 1-3-08 – 1-10-08, \$30,000.
- Uncertainty in Merging and Spacing NASA 1-1-08 – 1-9-08, \$130,000.
- Social cost of carbon: US Department of Energy 1-9-2010 – 1-7-2011, \$130,000.
- Measuring Risk National Science Foundation 1-6-2009 – 1-6-2011, \$280,000.
- Stochastic Food Web for Great Lakes Invasive Species NOAA, 1-1-2010 – 1-1-2014, \$150,000 (PI David Lodge, Notre Dame U)
- Value of Information of Earth Observing Systems, NASA, 1-9-12 - 1-9-2015, ~\$200,000.
- Nitrogen retention in Chesapeake Bay, EPA, U of Maryland ~, \$80,000.

# Publications

## Books

- Cooke, R.M., Nieboer, D. and Misiewicz, J. (2014) *Fat-Tailed distributions: Data, Diagnostics and Dependence*, Wiley, Hoboken NJ. ISBN 978-1-84821-792-8.
- Cooke, Roger M. (2009) (ed) *“Uncertainty Modeling in Dose Response: Bench Testing Environmental Toxicity* Wiley, New York, ISBN 978-479-44750-5
- Kurowicka, D. , and Cooke, Roger M. (2006) *Uncertainty Analysis and High Dimensional Dependence Modeling* Wiley, New York . ISBN-13: 978-0470863060 ISBN-10: 0470863064
- Bedford, T.J. and Cooke, Roger M. (2001) *Probabilistic Risk Analysis: Foundations and Methods*, Cambridge University Press, (393 pages) 2001; ISBN 0 521 77320 2 Hardback
- Cooke, Roger M., Mendel, M., Vrijling, H. (eds.) (1997) *Engineering Probabilistic Design and Maintenance for Flood Protection*, Kluwer Academic Publishers,.
- Cooke Roger M.,(1991) *Experts in Uncertainty; Opinion and Subjective Probability in Science*, Oxford University Press; New York Oxford, 321 pages.; ISBN 0-19-506465-8
- Cooke, Roger M. and Costantini, D. (eds.) (1990) *Statistics in Science*, Kluwer.
- Cooke, Roger M., (1983) *Belief in Science* (in Dutch, English Summary available), van Gorcum.

## Peer Reviewed Contract Research Reports

- Bush, B, Jenken, T. , Lipowicz, D., Arent, D. and Cooke, Roger M. (2012) "Variance Analysis of Wind and Natural Gas Generation under Different Market Structures: Some Observations" National Renewable Energy Laboratory, NREL/TP-6A20-52790, Contract No. DE-AC36-08GO28308.
- Ale, B., Bellamy, L.J., Cooke, Roger M., Duyvis, M., Kurowicka, D. Lin, P.H., Morales, O., Roelen, A. Spouge, J. (2009) "Causal Model for Air Transport Safety, Final Report" Ministerie van Verkeer en Waterstaat, Directoraat-Generaal Luchtvaart en Maritieme Zaken, ISBN 10:90 369 1724-7; ISB N 13: 978 90 369 1724-7, The Hague, The Netherlands.
- Speijker, L.J.P., Vidal. A. Cooke, Roger M. "Safety assessment of ATC-Wake single runway departures, NLR-TP-2006-465, July 2007.
- Speijker, L.J.P., van Baren G.B.. Cooke, Roger M. "Safety assessment of I-Wake single runway arrival operation with reduced separation" NLR-TP-2006, 532, May 2007.
- Cooke, Roger M., Environmental Transport Uncertainty Model for Abandoned Chemical Weapons Site: dispersion, deposition and groundwater. ABS consulting, Tokyo, 2003.
- A.Roelen, R. Wever, A. Hale, L. Goossens, R. Cooke, Roger M. Lopuhaa, M. Sijmons, and P. Valk, "Causal Modeling of air safety; NLR-CR-2002, 662, National Aerospace Laboratory, 2002.
- Cooke, Roger M., C. Bunea, T. Charitos, T.A. Mazzuchi "Mathematical Review of ZEDB Two-Stage Bayesian Model" VGB-Report, 45 pages; ISSN: 1439-7498, 2002
- Cooke, R.M. Goossens, L.J.H., (2000) Procedures guide for structured expert judgment Project report EUR 18820EN, Nuclear science and technology, specific programme Nuclear fission safety 1994-98, Report to: European Commission. Luxembourg, Euratom. Also in Radiation Protection Dosimetry Vol. 90 No. 3.2000, 64 7, pp 303-311.
- Brown, J. Goossens, L.H.J. , Harper, F.T., Kraan, B., Haskin, F.E, Abbott, M.L., Cooke, Roger M., Young, M.L., Jones, J.A. Hora, S.C., Rood, A., and Randall, J., Probabilistic accident consequence uncertainty study: Food chain uncertainty assessment, NUREG/CR-6523, EUR 16771, SAND97-0335 Washington/USA, and Brussels-Luxembourg, 1997 Vol, I, II
- Goossens, L.H.J. , J. Boardman, F.T. Harper, B.C.P. Kraan, Cooke, Roger M., M.L. Young, J.A. Jones and S.C. Hora, Probabilistic Accident Consequence Uncertainty Study: Uncertainty Assessment For Deposited Material And External Doses. NUREG/CR-6526 Washington/USA, 1997.
- Goossens, L.H.J. Cooke, Roger M. Pasler-Sauer, J. Kraan, B. & Jones, J.A. (1994). Probability Accident Consequence Uncertainty Analysis, Vols. 1-3, (NUREG/ CR-6244, EUR 15855 EN) Brussels: USNRC and CEC DG XII.
- Goossens, L.H.J., Harrison, J.D. , Harper, F.T., Kraan, B., Cooke, Roger M. and Hora, S.C., Probabilistic accident consequence uncertainty study: Uncertainty assessment for internal dosimetry, NUREG/CR-6571, EUR 16773, SAND98-0119, Washington/USA, and Brussels-Luxembourg, 1998, Vol. I, II.
- Goossens, L.H.J., and Harper, F.T., (1998) "Joint EC/USNRC expert judgement driven radiological protection uncertainty analysis", Journal of Radiological Protection, Vol.18, No.4, 249-264.
- Goossens, L.H.J., Boardman, J. , Harper, F.T., Kraan, B., Cooke, Roger M., Young, M.L., Jones, J.A. and Hora, S.C., Probabilistic accident consequence uncertainty study: Uncertainty assessment for deposited material and external doses NUREG/CR-6526, EUR 16772, SAND97-2323, Washington/USA, and Brussels-Luxembourg, 1997, Vol. I, II.
- Goossens, L.J.H. , Cooke, Roger M., Kraan, B., Ehrhardt, J., Fischer, F., Hasemann, I. , Jones, J.A., Brown, J., A. Khursheed, A. Phipps; Uncertainty from the dose module EUR 18825EN European Commission. Luxembourg 2001, Euratom.
- Goossens, L.J.H. , Cooke, Roger M., Kraan, B., Ehrhardt, J., F. Fischer, Hasemann, I., Brown, J., Jones, J.A., J.G. Smith ; Nuclear science and technology. Uncertainty from the food chain module, EUR 18823EN European Commission. Luxembourg 2001, Euratom.
- Goossens, L.J.H. , Kraan, B., Cooke, Roger M., Jones, J.A., Brown, L., Ehrhardt, J., Fischer, F. , Hasemann, I., Methodology and processing techniques, EUR 18827EN European Commission. Luxembourg 2001, Euratom.
- Goossens, L.J.H. , Kraan, B., Cooke, Roger M., Jones, J.A., Brown, J., Ehrhardt, J., Fischer, F., Hasemann, I., Nuclear science and technology. Overall uncertainty analysis, EUR 18826EN European Commission. Luxembourg 2001, Euratom
- Goossens, L.J.H. , Kraan, B., Cooke, Roger M., Jones, J.A., Brown, J., Ehrhardt, J., Fischer, F., Hasemann, I., Uncertainty from the atmospheric dispersion and deposition module, EUR 18822EN European Commission. Luxembourg 2001, Euratom.
- Goossens, L.J.H. , Kraan, B., Cooke, Roger M., Jones, J.A., Ehrhardt, J., Fischer, F., Hasemann, I., Uncertainty from the early and late health effects module, EUR 18824EN European Commission. Luxembourg 2001, Euratom.
- Goossens, L.J.H. , Kraan, B., Cooke, Roger M., Jones, J.A., Ehrhardt, J., Nuclear science and technology. Countermeasures uncertainty assessment, EUR 18821EN European Commission. Luxembourg 2001, Euratom.
- Harper, F.T., L.H.J. Goossens, Cooke, Roger M., S.C. Hora, M.L. Young, J. Päsler-Sauer, L.A. Miller, B. Kraan, C. Lui, M.D. McKay, J.C. Helton, and J.A. Jones. Probabilistic accident consequence uncertainty study:

Last updated Nov 16, 2024

- Dispersion and deposition uncertainty assessment Prepared for U.S. Nuclear Regulatory Commission and Commission of European Communities NUREG/CR-6244, EUR 15855 EN, SAND94-1453. Washington/USA and Brussels-Luxembourg, November 1994, published January 1995. Volume I: Main report, Volume II: Appendices A and B, Volume III: Appendices C, D, E, F, G, H.
- F.E. Haskin, L.H.J. Goossens, F.T. Harper, B.C.P. Kraan and Cooke, Roger M., Probabilistic Accident Consequence Uncertainty Study: Early Health Effects Uncertainty Assessment. Prepared for U.S. Nuclear Regulatory Commission and Commission of European Communities, NUREG/CR-6545 EUR 16775 SAND97-2689 Washington/USA, and Brussels-Luxembourg, 1997, published 1997, Vol. 1. Main Report Vol. 2. Appendices.
- Cooke, R.M, and van Noortwijk, Jan (1999) Bijlagen bij het expertmeningenrapport van de onzekerheidsanalyse op de inundatiekans. Rapport ONIN-1-99007, Projectnummer: WB 1083, 1999
- Martijn Frijters, Roger Cooke, Karen Slijkhuis, Jan van Noortwijk, Rapport ONIN-1-99006, Expertmeningen onzekerheidsanalyse. Kwalitatief en kwantitatief verslag, Projectnummer: WB 1083, 1999
- Cooke, Roger M., Van Noortwijk J.M., "Uncertainty Analysis of Inundation Probabilities, Phase 1, TU-Delft Report 37-97, ISSN 0922-5641, Delft 1997.
- J. Brown, L.H.J. Goossens, B.C.P. Kraan, Cooke, Roger M., J.A. Jones, J. Randall, F.T. Harper, F.E. Haskin, M.L. Abbott, M.L. Young, S.C. Hora and A. Rood, Probabilistic Accident Consequence Uncertainty Analysis, NUREG/CR-6523 EUR 16771, Vol. 1. Main Report June 1997. Vol. 2 Appendices.
- L.H.J. Goossens, Cooke, Roger M. and B.C.P. Kraan, Evaluation of weighting schemes for expert judgement studies Final report prepared under contract Grant No. Sub 94-FIS;040 for the Commission of European Communities, Directorate-General for Science, Research and Development, XII-F-6. Delft University of Technology, Delft/NL, December 1996, 75 p.
- Cooke, Roger M., Jager, E., Methods for assessing the failure frequency of underground gas pipelines with historical data and structured expert judgment, Report 96-75. Dept. of Mathematics, Delft University of Technology, 1996.
- Van Noortwijk J.M., Kok M. and Cooke R.M., Optimal decisions that reduce flood damage along the Meuse: an uncertainty analysis, publication no. 491, Delft Hydraulics, November 1995
- Cooke R.M., Review of SKI data processing methodology, The design of reliability data bases: generic issues Phase 1, SKI report 95:2
- Cooke R.M., Dorrepaal J. and Bedford T., Review of SKI data processing methodology, Mathematical Review Phase II, SKI report 95:2.
- Harper F.T., Hora S.C., Young M.L., Miller L.A., Lui C.H., McKay M.D., Helton J.C., Goossens L.H.J., Cooke R.M., P"asler-Sauer J., Kraan B., Jones J.A., Probability Accident Consequence Uncertainty Analysis, NUREG/CR-6244 EUR 15855EN SAND94-1453 Vol 1. Main Report January 1995. Vol 2. Appendices A.1 Expert Rationales, Unprocessed Deposition Data and A.2 Expert Rationales, Unprocessed Dispersion Data and B Short Biographies of Dispersion and Deposition Experts. Vol 3. Appendix C: Principles for Probability Assessment, Expert Identification and Selection. Appendix D: Equal and Performance Based Weighting methods for Combining Expert Judgments Appendix E: Inverse Modeling Methods Appendix F: Case Structures Appendix G: Summary of MACCS and COSYMA Consequence Codes Appendix H: Non-Gaussian Information Survey.
- Cooke, Roger M.; Goossens, L.H.J. and Kraan, B., Methods for CEC/USNRC Accident consequence uncertainty analysis of dispersion and deposition - Performance based aggregating of expert judgments and PARFUM method for capturing modeling uncertainty, EUR 15856, Luxembourg, June 1995.
- Paulsen, J.L. and Cooke R.M., Analysis of 221 Reports using Subsurvival Functions, Riso-I-795(EN), Riso National Laboratory, Roskilde, Denmark May 1994.
- Cooke, Roger M., Goossens, L. and Kraan, B., "Performance Based Aggregating of Expert Judgments and Parfum Method for Capturing Modeling Uncertainty, 1994.
- Cooke, Roger M. Bedford, T., Meilijson, I. and Meester, L., "Design of reliability data bases for aerospace applications", ISSN 09211-5641 Report 93-110 TU Delft, 1993.
- Cooke R., "Expert Judgement study on atmospheric dispersion and deposition - main report and annexes", ISSN 0922-5641 Report 91-81 TU Delft, 300 pages, 1991. Annex I "Parameter fitting for uncertain models" with Frank Vogt 21 pp. Annex II "Expert judgment for uncertainty analysis of accident consequence codes" with H. van der Weide, 30 pp.
- Cooke, Roger M. French, S. and van Steen, J. "The use of expert judgement in risk analysis - Report to the European Space Agency" (contract no. 8051/88/NL/re(SC)) 220 p. Delft, 1990.
- Final Report to the Dutch Ministry of Housing, Physical Planning and Environment: 1989. Vol. I Expert Judgment in Risk and Safety Studies; Main Report, Goossens, L. Cooke, Roger M. and van Steen, J. 68 pp. Vol. III Model Description Report, Cooke, Roger M., Mendel, M. and van Steen, J. 98 pp. Vol. IV A Theory of Weights for Combining Expert Opinions, Cooke, Roger M. 36 pp. Vol V Case Studies, Cooke, Roger M. and van Steen. 119 pp.

Last updated Nov 16, 2024

Cooke, Roger M.; Van der Horst, J.; Goossens, L. and Hale, A., Accident Sequence Precursor Methodology A feasibility study for the Chemical Process Industries: Report to the Ministry of Housing, Physical Planning and Environment, Delft, 1987.

## Refereed International Journals

- Kurowicka, D.; Aspinall, W.; Cooke, R. Foundational Aspects for Incorporating Dependencies in Copula-Based Bayesian Networks Using Structured Expert Judgments, Exemplified by the Ice Sheet–Sea Level Rise Elicitation. *Entropy* 2024, 26, 949. <https://doi.org/10.3390/e26110949>
- Nane, G and Cooke, R.M.(2024), Scoring Rules and Performance, New Analysis of Expert Judgment Data, Futures and Foresight Science. <https://onlinelibrary.wiley.com/doi/pdf/10.1002/ffo2.189>
- J. L. Bamber, M Oppenheimer, R. E. Kopp, W.P. Aspinall, Roger M. Cooke (2022) Ice sheet and climate processes driving the uncertainty in projections of future sea level rise: Findings from a structured expert judgement approach. *Earth's Future*, 03 October 2022 <https://doi.org/10.1029/2022EF002772>
- Colonna, Kyle J. , Nane, Gabriela F., Choma, Ernani F. , Cooke, Roger M. , and Evans, John S. (2022) A Retrospective Assessment of COVID-19 Model Performance in the US, with SI, *Royal Society Open Science*. <https://doi.org/10.1098/rsos.220021> SI: rsos220021\_si\_001.docx
- Rennert, Kevin ; Errickson, Frank ; Prest, Brian ; Rennels, Lisa ; Newell, Richard ; Pizer, William ; Kingdon, Cora ; Wingenroth, Jordan ; Cooke, Roger M. ; Parthum, Bryan ; Smith, David ; Cromar, Kevin ; Diaz, Delavane ; Moore, Frances ; Müller, Ulrich ; Plevin, Richard ; Raftery, Adrian ; Ševčíková, Hana ; Sheets, Hannah ; Stock, James ; Tan, Tammy ; Watson, Mark ; Wong, Tony ; Anthoff, David (2022) Comprehensive Evidence Implies a Higher Social Cost of CO<sub>2</sub>. *Nature*. Vol 610, pp 687-692 <https://www.nature.com/articles/s41586-022-05224-9>
- Cooke, Roger M. (2022) Averaging Quantiles, Variance Shrinkage and Overconfidence, *Futures & Foresight Science* published by John Wiley & Sons Ltd. <https://onlinelibrary.wiley.com/doi/full/10.1002/ffo2.139>
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## Links and Blogs

[roger marvin cooke](#)  
[@rogermarvincool](#)

### *WIKI pages*

[Vine Copula](#)  
[Structured Expert Judgment, the Classical Model](#)

### *RFF Researcher Page*

<http://www.rff.org/Researchers/Pages/ResearchersBio.aspx?ResearcherID=22>

### **Personal Homepage**

<http://rogermcooke.net/>

## VIDEOS

### **Video combining disparate information sources:**

<https://youtu.be/NBz5RirkXgw> (old 16.4 min)

[https://www.youtube.com/watch?v=ccSQeFT\\_Y5c&t=913s](https://www.youtube.com/watch?v=ccSQeFT_Y5c&t=913s) (SCC, new, 15.4 min)

<https://www.resources.org/common-resources/learning-about-climate-sensitivity-from-disparate-information-sources/> (16.4 min)

<http://www.rff.org/valuables/events/event/2019-01/using-social-cost-carbon-value-earth-observing-systems>

### **Video Dependence Elicitation for Ice Sheets. Non-Gaussian Multivariate Statistical Models and their Applications Banff 2013**

<http://www.birs.ca/events/2013/5-day-workshops/13w5146/videos/watch/201305221037-Cooke.html>

### **Video The Confidence Trap; dysfunctional dialogues about climate. Grande conference U de Montreal Oct 18, 2017**

<http://www.rff.org/blog/2017/confidence-trap-dysfunctional-dialogues-about-climate>

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Last updated Nov 16, 2024

<http://www.rff.org/research/publications/confidence-trap-balancing-proof-burden-climate-conversation>

**Climate Change and the Confidence Trap: RFF podcast**

<http://www.rff.org/blog/2017/climate-change-and-confidence-trap-podcast-roger-cooke>

**Eliciting Ice sheet's contribution to sea Level Rise**

<https://drive.google.com/file/d/0BxJ1MRYDUHitbE1QVmpVMUY2Sk0/view>

**Probabilistic Reasoning about measurements of climate sensitivity**

<https://www.youtube.com/watch?v=7XDTLYMNd-8>

**The Confidence trap ETH Zurich Dec 11, 2018**

<https://www.video.ethz.ch/lectures/d-mtec/2018/autumn/364-1058-00L.html>

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**RFF-CMCC EIEE seminar Using SCC to value climate observing systems 17-1-19**

<https://www.youtube.com/watch?v=ZyWba7ryla4>

<http://www.rff.org/valuables/events/event/2019-01/using-social-cost-carbon-value-earth-observing-systems>

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[https://www.youtube.com/playlist?list=PLhaHUlgJSbh55XaexC\\_hGUZj3UdGfkAwY](https://www.youtube.com/playlist?list=PLhaHUlgJSbh55XaexC_hGUZj3UdGfkAwY)

**SCC intro video with Kevin Rennert**

<https://youtu.be/jpWx-LVvAeU>

**SEJ intro video**

[http://rogermcooke.net/rogermcooke\\_files/SEJ%20final.mp4](http://rogermcooke.net/rogermcooke_files/SEJ%20final.mp4)

**Reasoning and Deciding under Uncertainty: A Syllabus of Errors** ETH Zurich May 4 2020

[https://ethz.zoom.us/rec/play/tZQIJr2oqmg3SNLH4wSDV6UrW43pfa2s03IX\\_adZxEe2USEANQKnYrMVYOvfEeyZx8-CfzOVM-3djjRH?continueMode=true](https://ethz.zoom.us/rec/play/tZQIJr2oqmg3SNLH4wSDV6UrW43pfa2s03IX_adZxEe2USEANQKnYrMVYOvfEeyZx8-CfzOVM-3djjRH?continueMode=true)

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Last updated Nov 16, 2024

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**Climatic Change**

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*Workshops at RFF:*

**Icesheets on the Move, (First Wednesday) June 12, 2013**



Last updated Nov 16, 2024

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