List of Publications

Matthias C. M. Troffaes

March 6, 2024

- [1] Matthias C. M. Troffaes. Quantum algorithmes: theoretische aspecten en toepassingen. Master's thesis, Universiteit Gent, May 2000.
- [2] Matthias C. M. Troffaes, Gert de Cooman, and Dirk Aeyels. Imprecise probabilities: discussion and open problems. In *Proceedings of the 2nd FTW PhD Symposium*, December 2001.
- [3] Matthias C. M. Troffaes, Gert de Cooman, and Dirk Aeyels. Optimal control under imprecision. In 20th Benelux Meeting on Systems and Control, Book of Abstracts, page 71, 3 2001.
- [4] Gert de Cooman and Matthias C. M. Troffaes. Optimal control with imprecise gain through dynamic programming. In Bram de Jager and Hans Zwart, editors, *21st Benelux Meeting on Systems and Control, Book* of Abstracts, page 94, Eindhoven, 3 2002. Technische Universiteit Eindhoven.
- [5] Matthias C. M. Troffaes and Gert de Cooman. The combination of conflicting information. In *Proceedings* of the 3rd FTW PhD Symposium, December 2002.
- [6] Matthias C. M. Troffaes and Gert de Cooman. Extension of coherent lower previsions to unbounded random variables. In Proceedings of the Ninth International Conference IPMU 2002 (Information Processing and Management of Uncertainty in Knowledge-Based Systems), pages 735–742, Annecy, France, July 2002. ESIA, Université de Savoie.
- [7] Matthias C. M. Troffaes and Gert de Cooman. Lower previsions for unbounded random variables. In Przemyslaw Grzegorzewski, Olgierd Hryniewicz, and Mariá Ángeles Gil, editors, Soft Methods in Probability, Statistics and Data Analysis, Advances in Soft Computing, pages 146–155, New York, September 2002. Physica-Verlag.
- [8] Gert de Cooman and Matthias C. M. Troffaes. Dynamic programming for discrete-time systems with uncertain gain. In Jean-Marc Bernard, Teddy Seidenfeld, and Marco Zaffalon, editors, ISIPTA '03: Proceedings of the Third International Symposium on Imprecise Probabilities and Their Applications, pages 162–176. Carleton Scientific, July 2003.
- [9] Matthias C. M. Troffaes. Natural selection in aggregation or how evolutionary game theory may help in aggregating imprecise expert opinions. In 7th workshop on dynamics and computation, Iterated games and cooperation, pages 35–36, October 2003.
- [10] Matthias C. M. Troffaes. Uncertainty and conflict: A behavioural approach to the aggregation of expert opinions. In Jiřina Vejnarová, editor, *Proceedings of 6th Workshop on Uncertainty Processing (WUPES 2003)*, pages 263–277. VŠE - Oeconomica Publishers, September 2003.
- [11] Matthias C. M. Troffaes and Gert de Cooman. Extension of coherent lower previsions to unbounded random variables. In B. Bouchon-Meunier, L. Foulloy, and R. R. Yager, editors, *Intelligent Systems for Information Processing: From Representation to Applications*, pages 277–288. North-Holland, November 2003.
- [12] Matthias C. M. Troffaes and Gert de Cooman. Reliable interval estimates for download times. In *Fourth FTW PhD Symposium*. Faculty of Engineering, Ghent University, December 2003.
- [13] Gert de Cooman and Matthias C. M. Troffaes. Coherent lower previsions in systems modelling: products and aggregation rules. *Reliability Engineering and System Safety*, 85(1-3):113–134, 2004.
- [14] Matthias C. M. Troffaes. Adaptive control without prior by dynamic programming. In Bram de Jager and Vincent Verdult, editors, *23rd Benelux Meeting on Systems and Control, Book of Abstracts*, page 68, Eindhoven, 3 2004. Technische Universiteit Eindhoven.

- [15] Matthias C. M. Troffaes. Decision making with imprecise probabilities: A short review. In F. G. Cozman, editor, SIPTA Newsletter, volume 2, pages 4–7. Society for Imprecise Probability Theory and Applications, Manno, Switzerland, December 2004.
- [16] Matthias C. M. Troffaes. Efficient and robust global amino acid sequence alignment with uncertain evolutionary distances. In Proceedings of the Tenth International Conference IPMU 2004 (Information Processing and Management of Uncertainty in Knowledge-Based Systems), volume 1, pages 571–578, July 2004.
- [17] Matthias C. M. Troffaes. Learning and optimal control of imprecise Markov decision processes by dynamic programming using the imprecise Dirichlet model. In Miguel Lopéz-Díaz, María Á. Gil, Przemyslaw Grzegorzewski, Olgierd Hyrniewicz, and Jonathan Lawry, editors, *Soft Methodology and Random Information Systems*, pages 141–148, Berlin, September 2004. Springer.
- [18] Gert de Cooman and Matthias C. M. Troffaes. Dynamic programming for deterministic discrete-time systems with uncertain gain. *International Journal of Approximate Reasoning*, 39(2-3):257–278, June 2005.
- [19] Gert de Cooman, Matthias C. M. Troffaes, and Enrique Miranda. n-Monotone lower previsions. *Journal of Intelligent and Fuzzy Systems*, 16(4):253–263, 2005.
- [20] Gert de Cooman, Matthias C. M. Troffaes, and Enrique Miranda. n-Monotone lower previsions and lower integrals. In Fabio G. Cozman, Robert Nau, and Teddy Seidenfeld, editors, ISIPTA'05: Proceedings of the Fourth International Symposium on Imprecise Probabilities and Their Applications, pages 145–154, July 2005.
- [21] Matthias C. M. Troffaes. Optimality, Uncertainty, and Dynamic Programming with Lower Previsions. PhD thesis, Universiteit Gent, Onderzoeksgroep SYSTeMS, Technologiepark Zwijnaarde 914, B-9052 Zwijnaarde, België, April 2005.
- [22] Matthias C. M. Troffaes. Conditional lower previsions for unbounded random quantities. In Jonathan Lawry, Enrique Miranda, Alberto Bugarin, Shoumei Li, Mariá Ángeles Gil, Przemyslaw Grzegorzewski, and Olgierd Hryniewicz, editors, Soft Methods in Probability for Integrated Uncertainty Modelling, Advances in Soft Computing, pages 201–209. Springer, September 2006.
- [23] Matthias C. M. Troffaes. Efficient and robust global amino acid sequence alignment with uncertain evolutionary distances. In Bernadette Bouchon-Meunier, Giulianella Coletti, and Ronald Yager, editors, Modern Information Processing: From Theory to Applications, pages 371–381. Elsevier Science Ltd, 3 2006.
- [24] Matthias C. M. Troffaes. Generalising the conjunction rule for aggregating conflicting expert opinions. International Journal of Intelligent Systems, 21(3):361–380, 3 2006.
- [25] Matthias C. M. Troffaes. Decision making under uncertainty using imprecise probabilities. *International Journal of Approximate Reasoning*, 45(1):17–29, May 2007.
- [26] Matthias C. M. Troffaes. Finite approximations to coherent choice. In Gert de Cooman, Jiřina Vejnarová, and Marco Zaffalon, editors, ISIPTA'07: Proceedings of the Fifth International Symposium on Imprecise Probability: Theories and Applications, pages 425–434, Prague, July 2007. Charles University, Faculty of Mathematics and Physics.
- [27] Matthias C. M. Troffaes and Frank P. A. Coolen. On the use of the imprecise Dirichlet model in fault trees. In *Mathematical Methods in Reliability: Proceedings*, Glasgow, July 2007. University of Strathclyde.
- [28] Gert de Cooman, Matthias C. M. Troffaes, and E. Miranda. n-Monotone exact functionals. *Journal of Mathematical Analysis and Applications*, 347(1):143–156, November 2008.
- [29] Gert de Cooman, Matthias C. M. Troffaes, and E. Miranda. A unifying approach to integration for bounded positive charges. *Journal of Mathematical Analysis and Applications*, 340(2):982–999, April 2008.
- [30] Nathan Huntley and Matthias C. M. Troffaes. An efficient normal form solution to decision trees with lower previsions. In Didier Dubois, M. Asunción Lubiano, Henri Prade, María Ángeles Gil, Przemyslaw Grzegorzewski, and Olgierd Hryniewicz, editors, *Soft Methods for Handling Variability and Imprecision*, Advances in Soft Computing, pages 419–426. Springer, September 2008.
- [31] Enrique Miranda, Matthias C. M. Troffaes, and Sébastien Destercke. Generalised p-boxes on totally ordered spaces. In Didier Dubois, M. Asunción Lubiano, Henri Prade, María Ángeles Gil, Przemyslaw Grzegorzewski, and Olgierd Hryniewicz, editors, Soft Methods for Handling Variability and Imprecision, Advances in Soft Computing, pages 235–242. Springer, September 2008.

- [32] Pauline Coolen-Schrijner, Frank P. A. Coolen, Matthias C. M. Troffaes, and Thomas Augustin. Imprecision in statistical theory and practice. *Journal of Statistical Theory and Practice*, 3(1):1–9, March 2009.
- [33] Pauline Coolen-Schrijner, Frank P. A. Coolen, Matthias C. M. Troffaes, and Thomas Augustin. Imprecision in statistical theory and practice. In Pauline Coolen-Schrijner, Frank P. A. Coolen, Matthias C. M. Troffaes, Thomas Augustin, and Sat Gupta, editors, *Imprecision in Statistical Theory and Practice*. Grace Scientific Publishing, 2009.
- [34] Nathan Huntley and Matthias C. M. Troffaes. Characterizing factuality in normal form sequential decision making. In Thomas Augustin, Frank P. A. Coolen, Serafín Moral, and Matthias C. M. Troffaes, editors, *ISIPTA'09: Proceedings of the Sixth International Symposium on Imprecise Probability: Theories and Applications*, pages 239–248, Durham, UK, July 2009.
- [35] Matthias C. M. Troffaes. Finite approximations to coherent choice. *International Journal of Approximate Reasoning*, 50(4):655–665, April 2009.
- [36] Matthias C. M. Troffaes and Frank P. A. Coolen. Applying the imprecise Dirichlet model in cases with partial observations and dependencies in failure data. *International Journal of Approximate Reasoning*, 50(2):257–268, February 2009.
- [37] Thomas Augustin, Frank P. A. Coolen, Serafin Moral, and Matthias C. M. Troffaes. Imprecise probability in statistical inference and decision making. *International Journal of Approximate Reasoning*, 51(9):1011–1013, 2010. Guest editorial.
- [38] Frank P. A. Coolen, Michael Oberguggenberger, and Matthias C. M. Troffaes. Uncertainty in engineering risk and reliability: Introduction. *Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability*, 224(4):i-vi, 2010. Guest editorial.
- [39] Matthias C. M. Troffaes, Nathan Huntley, and Ricardo Shirota Filho. Sequential decision processes under actstate independence with arbitrary choice functions. In Eyke Hüllermeier, Rudolf Kruse, and Frank Hoffmann, editors, Information Processing and Management of Uncertainty in Knowledge-Based Systems, volume 80 of Communications in Computer and Information Science, pages 98–107, Heidelberg, 2010. Springer.
- [40] Frank P. A. Coolen, Matthias C. M. Troffaes, and Thomas Augustin. Imprecise probability. In Miodrag Lovric, editor, *International Encyclopedia of Statistical Science*, pages 645–648. Springer, 2011.
- [41] Nathan Huntley and Matthias C. M. Troffaes. Dynamic programming and subtree perfectness for deterministic discrete-time systems with uncertain rewards. In F. Coolen, G. de Cooman, T. Fetz, and M. Oberguggenberger, editors, *ISIPTA'11: Proceedings of the Seventh International Symposium on Imprecise Probability: Theories and Applications*, pages 209–218, Innsbruck, 2011. SIPTA.
- [42] Nathan Huntley and Matthias C. M. Troffaes. Subtree perfectness, backward induction, and normalextensive form equivalence for single agent sequential decision making under arbitrary choice functions. arXiv:1109.3607v1 [math.ST], September 2011.
- [43] Matthias C. M. Troffaes and Sébastien Destercke. Probability boxes on totally preordered spaces for multivariate modelling. *International Journal of Approximate Reasoning*, 52(6):767–791, September 2011.
- [44] Matthias C. M. Troffaes and Sébastien Destercke. Probability boxes on totally preordered spaces for multivariate modelling. In F. Coolen, G. de Cooman, T. Fetz, and M. Oberguggenberger, editors, ISIPTA'11: Proceedings of the Seventh International Symposium on Imprecise Probability: Theories and Applications, pages 343–352, Innsbruck, 2011. SIPTA.
- [45] Matthias C. M. Troffaes and John Paul Gosling. Robust detection of exotic infectious diseases in animal herds: A comparative study of two decision methodologies under severe uncertainty. In F. Coolen, G. de Cooman, T. Fetz, and M. Oberguggenberger, editors, *ISIPTA'11: Proceedings of the Seventh International Symposium on Imprecise Probability: Theories and Applications*, pages 353–360, Innsbruck, 2011. SIPTA.
- [46] Matthias C. M. Troffaes and Robert Hable. Robustness of natural extension. In F. Coolen, G. de Cooman, T. Fetz, and M. Oberguggenberger, editors, ISIPTA'11: Proceedings of the Seventh International Symposium on Imprecise Probability: Theories and Applications, pages 361–370, Innsbruck, 2011. SIPTA.

- [47] Matthias C. M. Troffaes and Dana Kelly. Common-cause failure in wind turbines: An initial analysis, July 2011. Poster abstract for ISIPTA'11, Innsbruck, Austria.
- [48] Matthias C. M. Troffaes, Dana L. Kelly, and Gero Walter. Elicitation and inference for the imprecise Dirichlet model with arbitrary sets of hyperparameters. In Programme and Abstracts: 5th CSDA International Conference on Computational and Financial Econometrics (CFE 2011) and 4th International Conference of the ERCIM (European Research Consortium for Informatics and Mathematics) Working Group on Computing & Statistics (ERCIM 2011), page 38, 2011.
- [49] Matthias C. M. Troffaes, Enrique Miranda, and Sébastien Destercke. On p-boxes and random sets. In Programme and Abstracts: 5th CSDA International Conference on Computational and Financial Econometrics (CFE 2011) and 4th International Conference of the ERCIM (European Research Consortium for Informatics and Mathematics) Working Group on Computing & Statistics (ERCIM 2011), page 19, 2011.
- [50] Matthias C. M. Troffaes, Enrique Miranda, and Sébastien Destercke. On the connection between probability boxes and possibility measures. In *Proceedings of EUSFLAT-LFA 2011*, volume 1 of *Advances in Intelligent Systems Research*, pages 836–843, Aix-Les-Bains, France, July 2011. EUSFLAT, Atlantis Press.
- [51] Nathan Huntley and Matthias C. M. Troffaes. Identifying subtree perfectness in decision trees. arXiv:1208.1154v1 [math.ST], August 2012.
- [52] Nathan Huntley and Matthias C. M. Troffaes. Normal form backward induction for decision trees with coherent lower previsions. *Annals of Operations Research*, 195(1):111–134, May 2012.
- [53] Matthias C. M. Troffaes and Sébastien Destercke. A nested approach to multivariate modelling using lower previsions. In 11th International Probabilistic Safety Assessment and Management Conference and the Annual European Safety and Reliability Conference 2012 (PSAM11 ESREL 2012), pages 6764–6772, June 2012.
- [54] Matthias C. M. Troffaes and John Paul Gosling. Robust detection of exotic infectious diseases in animal herds: A comparative study of three decision methodologies under severe uncertainty. *International Journal of Approximate Reasoning*, 53(8):1271–1281, November 2012.
- [55] Matthias C. M. Troffaes, Dana L. Kelly, and Gero Walter. Imprecise Dirichlet model for common-cause failure. In 11th International Probabilistic Safety Assessment and Management Conference and the Annual European Safety and Reliability Conference 2012 (PSAM11 ESREL 2012), pages 6722–6728, June 2012.
- [56] Matthias C. M. Troffaes and Simon Blake. A robust data driven approach to quantifying common-cause failure in power networks. In F. Cozman, T. Denœux, S. Destercke, and T. Seidenfeld, editors, ISIPTA'13: Proceedings of the Eighth International Symposium on Imprecise Probability: Theories and Applications, pages 311–317, Compiègne, France, July 2013. SIPTA.
- [57] Matthias C. M. Troffaes and Michael Goldstein. A note on the temporal sure preference principle and the updating of lower previsions. In F. Cozman, T. Denœux, S. Destercke, and T. Seidenfeld, editors, ISIPTA'13: Proceedings of the Eighth International Symposium on Imprecise Probability: Theories and Applications, pages 319–328, Compiègne, France, July 2013. SIPTA.
- [58] Matthias C. M. Troffaes, Enrique Miranda, and Sébastien Destercke. On the connection between probability boxes and possibility measures. *Information Sciences*, 224:88–108, March 2013.
- [59] Matthias C. M. Troffaes and Lewis Paton. Logistic regression on Markov chains for crop rotation modelling. In F. Cozman, T. Denœux, S. Destercke, and T. Seidenfeld, editors, ISIPTA'13: Proceedings of the Eighth International Symposium on Imprecise Probability: Theories and Applications, pages 329–336, Compiègne, France, July 2013. SIPTA.
- [60] Matthias C. M. Troffaes and Damjan Škulj. Model checking for imprecise Markov chains. In F. Cozman, T. Denœux, S. Destercke, and T. Seidenfeld, editors, ISIPTA'13: Proceedings of the Eighth International Symposium on Imprecise Probability: Theories and Applications, pages 337–344, Compiègne, France, July 2013. SIPTA.
- [61] David M. Greenwood, Jake P. Gentle, Grant L. Ingram, Peter J. Davison, Kurt S. Myers, Isaac J. West, Jason W. Bush, and Matthias C. M. Troffaes. A comparison of real time thermal rating systems in the U.S. and the U.K. IEEE Transactions on Power Delivery, 29(4):1849–1858, August 2014.

- [62] Lewis Paton, Matthias C. M. Troffaes, Nigel Boatman, Mohamud Hussein, and Andy Hart. Multinomial logistic regression on Markov chains for crop rotation modelling. In Anne Laurent, Oliver Strauss, Bernadette Bouchon-Meunier, and Ronald R. Yager, editors, Proceedings of the 15th International Conference IPMU 2014 (Information Processing and Management of Uncertainty in Knowledge-Based Systems, 15-19 July 2014, Montpellier, France), volume 444 of Communications in Computer and Information Science, pages 476–485. Springer, 2014.
- [63] Matthias C. M. Troffaes, Frank P. A. Coolen, and Sébastien Destercke. A note on learning dependence under severe uncertainty. In Anne Laurent, Oliver Strauss, Bernadette Bouchon-Meunier, and Ronald R. Yager, editors, Proceedings of the 15th International Conference IPMU 2014 (Information Processing and Management of Uncertainty in Knowledge-Based Systems, 15-19 July 2014, Montpellier, France), volume 444 of Communications in Computer and Information Science, pages 498–507. Springer, 2014.
- [64] Matthias C. M. Troffaes, Gero Walter, and Dana Kelly. A robust Bayesian approach to modelling epistemic uncertainty in common-cause failure models. *Reliability Engineering and System Safety*, 125:13–21, May 2014. Special issue of selected articles from ESREL 2012.
- [65] Enrique Miranda, Matthias C. M. Troffaes, and Sébastien Destercke. A geometric and game-theoretic study of the conjunction of possibility measures. *Information Sciences*, 298:373–389, 2015.
- [66] Lewis Paton, Matthias C. M. Troffaes, Nigel Boatman, Mohamud Hussein, and Andy Hart. A robust Bayesian analysis of the impact of policy decisions on crop rotations. In Thomas Augustin, Serena Doria, Enrique Miranda, and Erik Quaeghebeur, editors, *ISIPTA'15: Proceedings of the 9th International Symposium on Imprecise Probability: Theories and Applications*, pages 217–226, Pescara, Italy, July 2015. ARACNE.
- [67] Matthias Troffaes, Jacob Gledhill, Damjan Škulj, and Simon Blake. Using imprecise continuous time Markov chains for assessing the reliability of power networks with common cause failure and non-immediate repair. In Thomas Augustin, Serena Doria, Enrique Miranda, and Erik Quaeghebeur, editors, ISIPTA'15: Proceedings of the 9th International Symposium on Imprecise Probability: Theories and Applications, pages 287–294, Pescara, Italy, July 2015. ARACNE.
- [68] Matthias C. M. Troffaes, Edward Williams, and Chris J. Dent. Data analysis and robust modelling of the impact of renewable generation on long term security of supply and demand. In 2015 IEEE Power Energy Society General Meeting, pages 1–5, July 2015.
- [69] Sarah Sheehy, Gruffudd Edwards, Chris J. Dent, Behzad Kazemtabrizi, Matthias C. M. Troffaes, and Simon Tindemans. Impact of high wind penetration on variability of unserved energy in power system adequacy. In 2016 International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), pages 1–6, October 2016.
- [70] Gruffudd Edwards, Sarah Sheehy, Chris J. Dent, and Matthias C. M. Troffaes. Assessing the contribution of nightly rechargeable grid-scale storage to generation capacity adequacy. *Sustainable Energy, Grids and Networks*, 12:69–81, December 2017.
- [71] Evelyn Heylen, Matthias C. M. Troffaes, Behzad Kazemtabrizi, Geert Deconinck, and Dirk Van Hertem. Qualitative comparison of techniques for evaluating performance of short term power system reliability management. In *ISGT Europe 2017*, September 2017.
- [72] Nawapon Nakharutai, Matthias C. M. Troffaes, and Camila C. S. Caiado. Efficient algorithms for checking avoiding sure loss. In Alessandro Antonucci, Giorgio Corani, Inés Couso, and Sébastien Destercke, editors, Proceedings of the Tenth International Symposium on Imprecise Probability: Theories and Applications, volume 62 of Proceedings of Machine Learning Research, pages 241–252. PMLR, July 2017.
- [73] Matthias C. M. Troffaes. A note on imprecise Monte Carlo over credal sets via importance sampling. In Alessandro Antonucci, Giorgio Corani, Inés Couso, and Sébastien Destercke, editors, Proceedings of the Tenth International Symposium on Imprecise Probability: Theories and Applications, volume 62 of Proceedings of Machine Learning Research, pages 325–332. PMLR, July 2017.
- [74] Matthias C. M. Troffaes and Ullrika Sahlin. Imprecise swing weighting for multi-attribute utility elicitation based on partial preferences. In Alessandro Antonucci, Giorgio Corani, Inés Couso, and Sébastien Destercke, editors, Proceedings of the Tenth International Symposium on Imprecise Probability: Theories and Applications, volume 62 of Proceedings of Machine Learning Research, pages 333–345. PMLR, July 2017.

- [75] Carlos J. Ferrandon-Cervantes, Behzad Kazemtabrizi, and Matthias C. M. Troffaes. Contingency ranking in power systems via reliability rates. In 18th IEEE International Conference on Environment and Electrical Engineering, Palermo, Italy, 2018.
- [76] Nawapon Nakharutai, Matthias C. M. Troffaes, and Camila C. S. Caiado. Improved linear programming methods for checking avoiding sure loss. *International Journal of Approximate Reasoning*, 2018.
- [77] Matthias C. M. Troffaes. Imprecise Monte Carlo simulation and iterative importance sampling for the estimation of lower previsions. *International Journal of Approximate Reasoning*, 101:31–48, October 2018.
- [78] Matthias C. M. Troffaes, Thomas Fetz, and Michael Oberguggenberger. Iterative importance sampling for estimating expectation bounds under partial probability specifications. In 8th International Workshop on Reliable Engineering Computing: Computing with Confidence (REC 2018), pages 139–146, Liverpool, UK, July 2018.
- [79] Henna Bains, Behzad Kazemtabrizi, Ander Madariaga, and Matthias C. M Troffaes. Using interval dominance and gamma-maximin for decision making in offshore power transmission, July 2019. Poster abstract for ISIPTA'19, Gent, Belgium.
- [80] Henna Bains, Ander Madariaga, Behzad Kazemtabrizi, and Matthias C. M. Troffaes. The impact of offshore transmission regulatory regimes on technology choices. In *CIGRE Symposium*, 2019.
- [81] Tathagata Basu, Jochen Einbeck, Matthias C. M. Troffaes, and Alistair Forbes. Robust uncertainty quantification for measurement problems with limited information, July 2019. Poster abstract for ISIPTA'19, Gent, Belgium.
- [82] Nawapon Nakharutai, Camila C. S. Caiado, and Matthias C. M. Troffaes. Evaluating betting odds and free coupons using desirability. *International Journal of Approximate Reasoning*, 106:128–145, March 2019.
- [83] Nawapon Nakharutai, Matthias C. M. Troffaes, and Camila Caiado. Improving and benchmarking of algorithms for decision making with lower previsions, July 2019. Poster abstract for ISIPTA'19, Gent, Belgium.
- [84] Nawapon Nakharutai, Matthias C. M. Troffaes, and Camila C. S. Caiado. Improving and benchmarking of algorithms for decision making with lower previsions. *International Journal of Approximate Reasoning*, 113:91–105, October 2019.
- [85] Matthias C. M. Troffaes and Tathagata Basu. A Cantelli-type inequality for constructing non-parametric p-boxes based on exchangeability. In Jasper De Bock, Cassio P. de Campos, Gert de Cooman, Erik Quaeghebeur, and Gregory Wheeler, editors, Proceedings of the Eleventh International Symposium on Imprecise Probabilities: Theories and Applications, volume 103 of Proceedings of Machine Learning Research, pages 386–393. PMLR, July 2019.
- [86] Matthias C. M. Troffaes, Thomas Krak, and Henna Bains. Two-state imprecise Markov chains for statistical modelling of two-state non-Markovian processes. In Jasper De Bock, Cassio P. de Campos, Gert de Cooman, Erik Quaeghebeur, and Gregory Wheeler, editors, Proceedings of the Eleventh International Symposium on Imprecise Probabilities: Theories and Applications, volume 103 of Proceedings of Machine Learning Research, pages 394–403. PMLR, July 2019.
- [87] Henna Bains, Ander Madariaga, Matthias C. M. Troffaes, and Behzad Kazemtabrizi. An economic model for offshore transmission asset planning under severe uncertainty. *Renewable Energy*, 160:1174–1184, November 2020.
- [88] Tathagata Basu, Jochen Einbeck, and Matthias C. M. Troffaes. A sensitivity analysis and error bounds for the adaptive lasso. In Itziar Irigoien, Dae-Jin Lee, Joaquín Martínez-Minaya, and María Xosé Rodríguez-Álvarez, editors, Proceedings of the 35th International Workshop on Statistical Modelling, pages 278–281, July 2020.
- [89] Tathagata Basu, Matthias C. M. Troffaes, and Jochen Einbeck. Binary credal classification under sparsity constraints. In Marie-Jeanne Lesot, Susana Vieira, Marek Z. Reformat, João Paulo Carvalho, Anna Wilbik, Bernadette Bouchon-Meunier, and Ronald R. Yager, editors, Proceedings of the 18th International Conference IPMU 2020 (Information Processing and Management of Uncertainty in Knowledge-Based Systems), pages 82–95. Springer International Publishing, June 2020.

- [90] S. N. Naghshbandi, L. Varga, A. Purvis, R. Mcwilliam, E. Minisci, M. Vasile, M. Troffaes, T. Sedighi, W. Guo, E. Manley, and D. H. Jones. A review of methods to study resilience of complex engineering and engineered systems. *IEEE Access*, 8:87775-87799, May 2020.
- [91] Tathagata Basu, Matthias C. M. Troffaes, and Jochen Einbeck. Bayesian adaptive selection under prior ignorance. In Massimiliano Vasile and Domenico Quagliarella, editors, *Advances in Uncertainty Quantification and Optimization Under Uncertainty with Aerospace Applications*, pages 365–378. Springer International Publishing, July 2021.
- [92] Nawapon Nakharutai, Matthias C. M. Troffaes, and Camila C. S. Caiado. Improving and benchmarking of algorithms for Γ -maximin, Γ -maximax and interval dominance. International Journal of Approximate Reasoning, 133:95–115, June 2021.
- [93] Daniel J. Rogers, Louis J. M. Aslett, and Matthias C. M. Troffaes. Modelling of modular battery systems under cell capacity variation and degradation. *Applied Energy*, 283:116360, February 2021.
- [94] Ullrika Sahlin and Matthias C. M. Troffaes. A note on EFSA's ongoing efforts to increase transparency of uncertainty in scientific opinions. *Journal of Risk Research*, 24(5):545–552, 2021.
- [95] Ullrika Sahlin, Matthias C. M. Troffaes, and Lennart Edsman. Robust decision analysis under severe uncertainty and ambiguous tradeoffs: an invasive species case study. *Risk Analysis*, 41:2140–2153, November 2021.
- [96] Ivette Raices Cruz, Johan Lindström, Matthias C. M. Troffaes, and Ullrika Sahlin. Iterative importance sampling with Markov chain Monte Carlo sampling in robust Bayesian analysis. *Computational Statistics & Data Analysis*, 176:107558, December 2022.
- [97] Ivette Raices Cruz, Matthias C. M. Troffaes, and Ullrika Sahlin. A suggestion for the quantification of precise and bounded probability to quantify epistemic uncertainty in scientific assessments. *Risk Analysis*, 42:239– 253, February 2022.
- [98] Carlos Ferrandon-Cervantes, Behzad Kazemtabrizi, and Matthias C. M. Troffaes. Inclusion of frequency stability constraints in unit commitment using separable programming. *Electric Power Systems Research*, 203:107669, February 2022.
- [99] Nawapon Nakharutai, Sébastien Destercke, and Matthias C. M. Troffaes. Decision making under severe uncertainty on a budget. In Florence Dupin de Saint-Cyr, Meltem Öztürk-Escoffier, and Nico Potyka, editors, 15th International Conference on Scalable Uncertainty Management (SUM 2022), volume 13562 of Lecture Notes in Computer Science, pages 186–201. Springer International Publishing, October 2022.
- [100] Ivette Raices Cruz, Matthias C. M. Troffaes, Johan Lindström, and Ullrika Sahlin. A robust Bayesian biasadjusted random effects model for consideration of uncertainty about bias terms in evidence synthesis. *Statistics in Medicine*, 41(17):3365-3379, July 2022.
- [101] Matthias C. M. Troffaes and Michael Goldstein. Foundations for temporal reasoning using lower previsions without a possibility space. In Thomas Augustin, Fabio Gagliardi Cozman, and Gregory Wheeler, editors, *Reflections on the Foundations of Probability and Statistics: Essays in Honor of Teddy Seidenfeld*, volume 54 of *Theory and Decision Library A: Rational Choice in Practical Philosophy and Philosophy of Science*, chapter 4, pages 69–96. Springer, August 2022.
- [102] Tathagata Basu, Matthias C. M. Troffaes, and Jochen Einbeck. A robust Bayesian analysis of variable selection under prior ignorance. *Sankhya* A, 85, 2023.
- [103] Mohammad Rajabdorri, Behzad Kazemtabrizi, Matthias C. M. Troffaes, Lukas Sigrist, and Enrique Lobato. Inclusion of frequency nadir constraint in the unit commitment problem of small power systems using machine learning. Sustainable Energy, Grids and Networks, 36:101161, December 2023.
- [104] Matthias C. M. Troffaes. A constructive theory for conditional lower previsions only using rational valued probability mass functions with finite support, July 2023. Poster abstract for ISIPTA'23, Oviedo, Spain.
- [105] Matthias C. M. Troffaes. A nonstandard approach to stochastic processes under probability bounding. In Enrique Miranda, Ignacio Montes, Erik Quaeghebeur, and Barbara Vantaggi, editors, Proceedings of the Thirteenth International Symposium on Imprecise Probability: Theories and Applications, volume 215 of Proceedings of Machine Learning Research, pages 450–460. PMLR, July 2023.

- [106] Matthias C. M. Troffaes, Behzad Kazemtabrizi, Andrew Smallbone, Henna Bains, Andrew Jenkins, and Paul McKeever. Using probability bounding to improve decision making for offshore wind planning in industry, July 2023. Poster abstract for ISIPTA'23, Oviedo, Spain.
- [107] Nawapon Nakharutai, Sébastien Destercke, and Matthias C. M. Troffaes. Regret-based budgeted decision rules under severe uncertainty. *Information Sciences*, 665:120361, April 2024.
- [108] Isha Saxena, Behzad Kazemtabrizi, Matthias C. M. Troffaes, and Christopher Crabtree. Data driven infrastructure planning for offshore windfarms. Accepted, 2024.
- [109] Thomas Augustin, Frank P. A. Coolen, Gert De Cooman, and Matthias C. M. Troffaes, editors. *Introduction to Imprecise Probabilities*. Wiley Series in Probability and Statistics. Wiley, 2014.
- [110] Thomas Augustin, Frank P. A. Coolen, Serafín Moral, and Matthias C. M. Troffaes, editors. International Journal of Approximate Reasoning, volume 51. Elsevier, November 2010. Special Issue on Imprecise Probability in Statistical Inference and Decision Making.
- [111] Thomas Augustin, Frank P. A. Coolen, Serafín Moral, and Matthias C. M. Troffaes, editors. *Proceedings of the Sixth International Symposium on Imprecise Probability: Theories and Applications*, Durham, UK, 2009. Durham University, SIPTA.
- [112] Tathagata Basu, Jochen Einbeck, and Matthias C. M. Troffaes. Uncertainty Quantification in Lasso-Type Regularization Problems, pages 81–109. Springer International Publishing, 2021.
- [113] Frank P. A. Coolen, Michael Oberguggenberger, and Matthias C. M. Troffaes, editors. Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability, volume 224, 2010. Special Issue on Uncertainty in Engineering and Risk Reliability.
- [114] Pauline Coolen-Schrijner, Frank P. A. Coolen, Matthias C. M. Troffaes, and Thomas Augustin, editors. *Journal of Statistical Theory and Practice*, volume 3 of *Journal of Statistical Theory and Practice*. Grace Scientific Publishing, 2009. Special Issue on Imprecision.
- [115] Pauline Coolen-Schrijner, Frank P. A. Coolen, Matthias C. M. Troffaes, Thomas Augustin, and Sat Gupta, editors. *Imprecision in Statistical Theory and Practice*. Grace Scientific Publishing, 2009.
- [116] Nathan Huntley, Robert Hable, and Matthias C. M. Troffaes. *Introduction to Imprecise Probabilities*, chapter Decision making, pages 190–206. Wiley, 2014.
- [117] Matthias C. M. Troffaes and Gert de Cooman. *Lower Previsions*. Wiley Series in Probability and Statistics. Wiley, May 2014.
- [118] Matthias C. M. Troffaes and Robert Hable. Introduction to Imprecise Probabilities, chapter Computation, pages 329–337. Wiley, 2014.