

Curriculum Vitae: Valentin Bertsch



Personal Data

Name: Valentin Bertsch
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Professional Career

Since 11/2015 Associate Research Professor Energy Economics, Economic and Social Research Institute, Dublin, Ireland / Adjunct Associate Professor, Department of Economics, Trinity College Dublin, Ireland

2012 – 2015 Head of research group 'Distributed energy systems and networks' Chair of Energy Economics, Karlsruhe Institut of Technology (KIT), Germany

2012 – 2015 Leading scientist at the Karlsruhe Service Research Institute (KSRI), Karlsruhe Institute of Technology (KIT), Germany

2008 – 2012 Senior analyst and project manager for energy economics, EnBW Trading GmbH, Karlsruhe, Germany

2007 – 2008 Deputy head of the research group on 'Technique Assessment and Risk Management', Institute for Industrial Production (IIP), University of Karlsruhe (TH), Germany

2004 – 2008 Research associate, Institute for Industrial Production (IIP) and French-German Institute for Environmental Research (DFIU), University of Karlsruhe (TH), Germany

2001 Student trainee, Corporate technology department within Siemens AG, Munich, Germany

Educational Background

2014 Accomplishment of a certificate for university didactic, Hochschuldidaktikzentrum Baden-Württemberg, Germany

2007 PhD (pass with distinction) in economics (Dr. rer.pol.), University of Karlsruhe (TH), Germany, Title: „Uncertainty Handling in Multi-Attribute Decision Support for Industrial Risk Management“

2002 – 2003 Diploma thesis (in cooperation with the corporate technology department within Siemens AG, Munich), Title: „Analyse und Einsatz kinetischer Verfahren zur Simulation kompressibler Strömungen von idealen und realen Fluiden“

1997 – 2003 Study of Applied Mathematics, University of Karlsruhe (TH), and University 'Joseph Fourier' of Grenoble, France (Overall grade: 'sehr gut' / very good)

1996 Abitur, Max-von-Laue-Gymnasium, Koblenz, Germany

Current Research Fields

- Interdependencies of decisions in energy systems and cross-linked infrastructures
- Energy market design and regulation, incl. retail markets
- Multi-criteria evaluation of energy technologies
- Energy services

Language Skills

German	Mother tongue
English	Business fluent in written and spoken
French	Fluent in written and spoken
Spanish	Basic knowledge

Honors, Awards (Selection)

2015	Teaching Award, KIT, Department of Economics and Management
2014	HECTOR Teaching Award 2013/2014, HECTOR School Karlsruhe
2007	Best PhD Student Paper Award („Mike Meleshkin Award“), 4 th Int. Conf. on Information Systems for Crisis Response and Management, Delft, Netherlands

Publications*Journal Articles*

1. McKenna, R., Bertsch, V., Jochem, P., Genoese, M. & Fichtner, W. (2016) Infrastrukturelle und nachfrageseitige Herausforderungen für die Energiewirtschaft: eine Aufgabe für die Energiesystemanalyse, BFuP – Betriebswirtschaftliche Forschung und Praxis (forthcoming).
2. Bertsch, V. & Fichtner, W. (2016) A participatory multi-criteria approach for power generation and transmission planning, Annals of Operations Research, DOI 10.1007/s10479-015-1791-y (online).
3. Ruppert, M., Hayn, M., Bertsch, V. & Fichtner, W. (2016) Impact of residential electricity tariffs with variable energy prices on low voltage grids with photovoltaic generation, International Journal of Electrical Power & Energy Systems, 79, pp. 161-171.
4. Schermeyer, H., Bertsch, V. & Fichtner, W. (2015) Review and extension of suitability assessment indicators of weather model output for analyzing decentralized energy systems, Atmosphere, 2015, 6, pp. 1871–1888.
5. Hayn, M., Bertsch, V. & Fichtner, W. (2014) Stromtarife und Technologien im Endkundenmarkt und deren Einfluss auf den Leistungsbedarf von Haushalten aus dem Netz, Umweltwirtschaftsforum, 22(4), pp. 249-255.
6. Hayn, M., Bertsch, V. & Fichtner, W. (2014) Electricity load profiles in Europe: The importance of household segmentation, Energy Research & Social Science, 3, pp. 30-45.
7. Schermeyer, H., Klapdor, K., Steinhausen, B., Bergmann, P. & Bertsch, V. (2014) Lösungsvorschläge für ein marktnahes Einspeisemanagement, Energiewirtschaftliche Tagesfragen, 64(8), pp. 52-56.
8. McKenna, R., Bertsch, V., Jochem, P., Genoese, M. & Fichtner, W. (2014) Angebotsseitige Herausforderungen für die Energiewirtschaft: Erneuerbare und Konventionelle Stromerzeugung, BFuP – Betriebswirtschaftliche Forschung und Praxis, 66(3), pp. 317-329.
9. Nolden, C., Schönfelder, M., Eßer-Frey, A., Bertsch, V. & Fichtner, W. (2013) Network constraints in techno-economic energy system models: towards more accurate modeling of power flows in long-term energy system models, Energy Systems, 4(3), pp. 267-287.

10. Hillemacher, L., Hufendiek, K., Bertsch, V., Wiechmann, H., Gratenau, J., Jochem, P. & Fichtner, W. (2013) Ein Rollenmodell zur Einbindung der Endkunden in eine smarte Energiewelt, ZfE – Zeitschrift für Energiewirtschaft, 37(3), pp. 195-210.
11. Geldermann, J., Bertsch, V. & Gering, F. (2011) Risiko- und Notfallmanagement unter Unsicherheit – am Beispiel der Planung effizienter Maßnahmen nach kerntechnischen Störfällen – Teil 2, Der Betriebswirt Nr. 2 / 2011, pp. 12-16.
12. Geldermann, J., Bertsch, V. & Gering, F. (2011) Risiko- und Notfallmanagement unter Unsicherheit – am Beispiel der Planung effizienter Maßnahmen nach kerntechnischen Störfällen – Teil 1, Der Betriebswirt Nr. 1 / 2011, pp. 28-33.
13. Hiete, M., Bertsch V., Comes, T., Schultmann, F. & Raskob, W. (2010) Evaluation strategies for nuclear and radiological emergency and post-accident management, Radioprotection, 45(5), pp. 133-147.
14. Nisbet, A.F., Rochford, H., Cabianna, T., Oudiz, A., Kirchner, G., Hoffmann, M., Bertsch, V., Merz, M., Carlé, B., Turcanu, C., Sohler, S., Camps, J., Olyslaegers, G. (2010) Generic guidance on the lifting of emergency countermeasures, Radioprotection, 45(5), pp. 39-46.
15. Merz, M., Hiete, M. & Bertsch, V. (2009) Multicriteria decision support for business continuity planning in the event of critical infrastructure disruptions, International Journal of Critical Infrastructures (IJCIS), 5(1/2), pp. 156-174.
16. Geldermann, J., Bertsch, V., Treitz, M., French, S., Papamichail, K.N. & Hämäläinen, R.P. (2009) Multi-criteria Decision Support and Evaluation of Strategies for Nuclear Remediation Management, OMEGA – The International Journal of Management Science, 37(1), pp. 238-251.
17. Geldermann, J., Bertsch, V. & Gering, F. (2008) Risikomanagement und Mehrzielentscheidungsunterstützung unter Unsicherheit am Beispiel der Planung effizienter Notfallmaßnahmen nach kerntechnischen Störfällen, Research Paper der Georg-August-Universität Göttingen, Wirtschaftswissenschaftliche Fakultät, Schwerpunkt Unternehmensführung, Professur für Produktion und Logistik.
18. Geldermann, J., Merz, M., Bertsch, V., Seifert, I., Thieken, A.H., Borst, D., Hiete, M., Rentz, O. & Werner, U. (2008) The Reference Installation Approach for the Estimation of Industrial Assets at Risk, European Journal of Industrial Engineering, 2(1), pp. 73-93.
19. Bertsch, V. & Geldermann, J. (2008) Preference Elicitation and Sensitivity Analysis in Multi-Criteria Group Decision Support for Industrial Risk and Emergency Management, International Journal of Emergency Management, 5(1/2), pp. 7-24.
20. Bertsch, V., Treitz, M., Geldermann, J. & Rentz, O. (2007) Sensitivity Analyses in Multi-Attribute Decision Support for Off-Site Nuclear Emergency and Recovery Management, International Journal of Energy Sector Management, 1(4), pp. 342-365.
21. Bertsch, V., Geldermann, J., Rentz, O. & Raskob, W. (2006) Multi-Criteria Decision Support and Stakeholder Involvement in Emergency Management, International Journal of Emergency Management, 3(2/3), pp. 114-130.

Books

22. Bertsch, V. (2008) Uncertainty Handling in Multi-Attribute Decision Support for Industrial Risk Management, Dissertation, University of Karlsruhe (TH), KIT Scientific Publishing, Karlsruhe, Germany. Available online at: <http://www.ksp.kit.edu/9783866442078>.

23. Ringler, P., Schermeyer, H., Ruppert, M. Hayn, M., Bertsch, V., Keles, D. & Fichtner, W. (2016) Decentralized Energy Systems, Market Integration, Optimization, KIT Scientific Publishing, Karlsruhe, Germany (forthcoming).

Edited Books

24. Görlitz, R., Bertsch, V., Caton, S., Feldmann, N., Jochem, P., Maleshkova, M. & Reuter-Opfermann, M. (Eds.) (2015) Advances in Service Research – Proceedings of the First Karlsruhe Service Summit Research Workshop, KIT Scientific Publishing, Karlsruhe, Germany. Print-on-demand as book or online at: <http://www.ksp.kit.edu/9783731503446>.
25. Bertsch, V., Fichtner, W., Leibfried, T. & Heuveline, V. (2016) Advances in Energy Systems Optimization, Trends in Mathematics, Springer (forthcoming).

Book Chapters

26. Hillemacher, L., Hufendiek, K., Bertsch, V., Wiechmann, H., Gratenau, J., Jochem, P. & Fichtner, W. (2016) Ein Rollenmodell zur Einbindung der Endkunden in eine smarte Energiewelt, in: von Weizsäcker, C.C., Lindenberger, D., Höffler, F. (Eds.) Interdisziplinäre Aspekte der Energiewirtschaft, Springer (forthcoming).
27. Slednev, V., Ruppert, M., Bertsch, V., Fichtner, W., Meyer-Hübner, N., Suriyah, M., Leibfried, T., Gerstner, P., Schick, M. & Heuveline, V. (2016) Regionalizing Input Data for Generation and Transmission Expansion Planning Models, in: Bertsch, V., Fichtner, W., Leibfried, T. & Heuveline, V. (Eds.) Advances in Energy Systems Optimization, Springer (forthcoming).
28. Meyer-Hübner, N., Suriyah, M., Leibfried, T., Slednev, V., Bertsch, V., Fichtner, W., Gerstner, P., Schick, M. & Heuveline, V. (2016) Optimal Storage Operation with Model Predictive Control in the German Transmission Grid, in: Bertsch, V., Fichtner, W., Leibfried, T. & Heuveline, V. (Eds.) Advances in Energy Systems Optimization, Springer (forthcoming).
29. Slednev, V., Bertsch, V. & Fichtner, W. (2016) A multi-objective time segmentation approach for power generation and transmission models, in: Ivana Ljubic, Georg Pflug, Gernot Tragler & Karl Doerner (Eds.) Operations Research Proceedings 2015, Springer (forthcoming).
30. Slednev, V., Bertsch, V., Nolden, C., Fichtner, W. (2014) Multi-criteria decision support for power grid expansion planning, in: Langton, S., Morton, A., Geiger, M.J. & Siebert, J. (Eds.) Decision Analysis and Multiple Criteria Decision Making, pp. 133-159, Shaker Verlag Aachen.
31. Hillemacher, L., Bertsch, V. & Fichtner, W. (2014) Modellgestützte Analyse der Auswirkungen dynamischer Strompreissignale auf das Energiesystem, in: Kunze, R. & Fichtner, W. (Eds.): Einsatz von OR-Verfahren zur Analyse von Fragestellungen im Umweltbereich, pp. 101-117, Shaker Verlag Aachen.
32. Bertsch, V., Schwarz, H. & Fichtner, W. (2014) Layout optimisation of decentralised energy systems under uncertainty, in: Operations Research Proceedings 2013, pp. 29-35, Springer.
33. Hiete, M., Ludwig, J., Merz, M. & Bertsch, V. (2009) Ökodesign von Gebäuden – Visualisierungstechniken für Mehrzielentscheidungsprobleme, in: Heyde, F., A. Löhne & Ch. Tammer (Eds.): Methods of Multicriteria Decision Theory and Applications, pp. 57-78, Shaker Verlag Aachen.

34. Bertsch, V., Geldermann, J. & Rentz, O. (2007) Preference Sensitivity Analyses for Multi-Attribute Decision Support, in: K.-H. Waldmann and U. M. Stocker (Eds.), Operations Research Proceedings 2006, pp. 411-416, Springer.
35. Geldermann, J., Bertsch, V. & Rentz, O. (2006) Multi-Criteria Decision Support and Uncertainty Handling, Propagation and Visualisation for Emergency and Remediation Management, in: H.-D. Haasis, H. Kopfer and J. Schönberger (Eds.), Operations Research Proceedings 2005, pp. 755-760, Springer.
36. Geldermann, J., Treitz, M., Bertsch, V. & Rentz, O. (2006) Sensitivitätsanalysen in PROMETHEE, in: K.-H. Küfer, H. Rommelfanger, C. Tammer and K. Winkler (Eds.), Multicriteria Decision Making and Fuzzy Systems - Theory, Methods and Applications, Aachen, pp. 59-73, Shaker Verlag Aachen.
37. Geldermann, J., Treitz, M., Bertsch, V. & Rentz, O. (2005) Moderated Decision Support and Countermeasure Planning for off-site Emergency Management, in: R. Loulou, J.-P. Waub and G. Zaccour (Eds.) Energy and Environment: Modeling and Analysis, pp. 63-80, Springer.

Conference Proceedings

38. Ruppert, M., Slednev, V., Bertsch, V. & Fichtner, W. (2016) The impact of microeconomic decisions in electricity market modelling on load flows in transmission grids, in: 13th International Conference on the European Energy Market (EEM), IEEE Xplore (forthcoming).
39. Di Cosmo, V., Bertsch, V. & Dean, J.P. (2016) Impact of new interconnection lines on the EU electricity market, in: 13th International Conference on the European Energy Market (EEM), IEEE Xplore (forthcoming).
40. Ruppert, M., Bertsch, V. & Fichtner, W. (2015) Optimal Load Shedding in Distributed Networks with Sigmoid Cost Functions, in: 2015 International Symposium on Smart Electric Distribution Systems and Technologies (EDST), pp. 159-164, IEEE Xplore (<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7315200>).
41. Meyer-Hübner, N., Suriyah, M., Leibfried, T., Slednev, V., Bertsch, V., Fichtner, W., Gerstner, P., Schick, M. & Heuvelin, V. (2015) Time constrained optimal power flow calculations on the German power grid, in: International ETG Congress 2015, pp. 316-322, IEEE Xplore (<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7388498>).
42. Bertsch, V., Fichtner, W., Hall, M., Schumacher, T., Weinhardt, C. (2015) Service Requirements for Consumer Engagement in the German Energy Retail Market, in: Zhao, Xiande, Zhang, Jie, and Han, Hyun Jeong (Eds.) Proceedings of 2015 Quality in Service (QUIS 14).
43. Raskob, W., Bertsch, V., Ruppert, M., Strittmatter, M., Happe, L., Broadnax, B., Wandler, S. & Deines, E. (2015) Security of electricity supply in 2030, Critical Infrastructure Protection & Resilience Europe, The Hague, Netherlands.
44. Schermeyer, H., Schwarz, H., Bertsch, V. & Fichtner, W. (2015) Stochastic simulation of photovoltaic electricity feed-in considering spatial correlation, in: Weber, C. & Derksen, C. (Eds.) Proceedings of the 2015 SmartER Europe Conference, pp. 12-16.
45. Hayn, M., Bertsch, V. & Fichtner, W. (2015) A concept for service level indicators in residential electricity tariffs with variable capacity prices, in: Görlitz, R., Bertsch, V., Caton, S., Feldmann, N., Jochem, P., Maleshkova, M. & Reuter-Oppermann, M. (Eds.)

- Advances in Service Research – Proceedings of the First Karlsruhe Service Summit Research Workshop, pp. 1-10, KIT Scientific Publishing, Karlsruhe, Germany.
46. Hayn, M., Schneider, R., Bertsch, V. & Fichtner, W. (2015) Wert der Versorgungssicherheit und Akzeptanz von Stromtarifen mit variablen Leistungspreisen, Proceedings 9. Internationale Energiewirtschaftstagung, 2015, Vienna, Austria.
 47. Hayn, M., Bertsch, V. & Fichtner, W. (2014) Residential bottom-up load modelling with price elasticity, 14th IAAE European Conference, Rome, Italy.
 48. Schermeyer, H., Bertsch, V. & Fichtner, W. (2014) Validation and utilization of numerical weather model data in energy systems analysis of decentralized electricity production, 7th International Scientific Conference on "Energy and Climate Change", Athens, Greece.
 49. Hayn, M., Bertsch, V. & Fichtner, W. (2014) Einfluss neuer Technologien auf den Leistungsbezug von Haushalten aus dem Netz, Proceedings 13. Symposium Energieinnovation, Graz, Austria.
 50. Hayn, M., Ringler, P., Ruppert, M., Schmid, J., Bertsch, V., Keles, D. & Fichtner, W. (2014) A residential price elasticity model for agent-based simulation of decentralised energy systems, Proceedings SmartER Europe Conference, 2014, Essen.
 51. Schwarz, H., Bertsch, V. & Fichtner, W. (2014) Model-induced uncertainties in the layout optimisation of distributed energy systems, Proceedings SmartER Europe Conference, 2014, Essen.
 52. Nolden, C., Bertsch, V. & Fichtner, W. (2013) Modellierung eines modellendogenen Netzausbaus in optimierenden Energiesystemmodellen, in: VDI-Berichte 2212, 10. Fachtagung Optimierung in der Energiewirtschaft, 2014, Cologne, Germany, pp. 265-276,
 53. Comes, T., Bertsch, V. & French, S. (2013) Designing dynamic stress tests for improved critical infrastructure resilience, in: Comes, T.; Fiedrich, F.; Fortier, S.; Geldermann, J. & Mueller, T. (Eds.) 10th International Conference on Information Systems for Crisis Response and Management (ISCRAM), 2013, Baden-Baden, Germany, pp. 307-311.
 54. Hillemacher, L., Nolden, C., Bertsch, V. & Fichtner, W. (2013) Lastverlagerungspotenziale durch variable Stromtarife – Ergebnisse eines Feldversuchs, Proceedings 8. Internationale Energiewirtschaftstagung, Vienna, Austria.
 55. Raskob, W., Gering, F. & Bertsch, V. (2009) Approaches to visualisation of uncertainties to decision makers in an operational Decision Support System, in: J. Landgren & S Jul (Eds.) Proceedings of the 6th International ISCRAM Conference – Gothenburg, Sweden, May 2009.
 56. Merz, M., Hiete, M. & Bertsch, V. (2008) Management of Critical Infrastructure Disruptions in Industrial Supply Chains, Proceedings IDRC 2008, 25.-29.08.2008 in Davos, Switzerland, pp. 416-419
 57. Merz, M., Hiete, M., Bertsch, V. & Rostal, D. (2008) Multi criteria decision support for business continuity planning in the event of critical infrastructure disruptions, 5th Dresden Symposium Hazards – Detection and Management, March 03-07, 2008 Dresden.
 58. Bertsch, V., Merz, M., Hiete, M. & Rentz, O. (2007) Structured Decision Support to Manage Risks Emerging from Industrial Production, 7th Annual IIASA-DPRI Forum on Integrated Disaster Risk Management, Stresa, 19-21 Sept. 2007.

59. Merz, M., Hiete, M., Bertsch, V. & Rentz, O. (2007) Decision support for managing interruptions in industrial supply chains, Proceedings zum 8. DKKV-Forum Katastrophenvorsorge - Katastrophenvorsorge im Klimawandel.
60. Seifert, I., Merz, M., Thieken, A.H., Bertsch, V., Hiete, M., Werner, U. & Borst, D. (2007) Effiziente Katastrophenvorsorge durch Abschätzung des Schadenspotenzials - ein Ansatz zur Abschätzung des industriellen Anlagevermögens, Proceedings zum 8. DKKV-Forum Katastrophenvorsorge - Katastrophenvorsorge und Klimawandel - 2007.
61. Bertsch, V., Rentz, O. & Geldermann, J. (2007) Preference Elicitation and Sensitivity Analysis in Multi-Criteria Group Decision Support for Nuclear Remediation Management, in: B. Van de Walle, P. Burghardt and K. Nieuwenhuis (Eds.), ISCRAM 2007 - 4th International Conference on Information Systems for Crisis Response and Management, Delft, The Netherlands, 395-404, VUBPRESS, Brussels.
62. Merz, M., Bertsch, V., Rentz, O. & Geldermann, J. (2007) Assessment of Industrial Asset Values at Risk, in: B. Van de Walle, P. Burghardt and K. Nieuwenhuis (Eds.), ISCRAM 2007 - 4th International Conference on Information Systems for Crisis Response and Management, Delft, The Netherlands, 235-244, VUBPRESS, Brussels.
63. Merz, M., Geldermann, J., Bertsch, V., Löpke, D. & Rentz, O. (2007) Decision Support for Crisis Management by Large-Scale Exercises, Proceedings of the 14th Annual Conference 2007 of the International Emergency Management Society (TIEMS), 147-157.
64. Bertsch, V., Geldermann, J. & Rentz, O. (2006) Multidimensional Monte Carlo Sensitivity Analysis in Multi-Criteria Decision Support, in: F. Mayer and J. Stahre (Eds.), Proceedings of the 9th IFAC Symposium on Automated Systems Based on Human Skill And Knowledge, Nancy, France.
65. Bertsch, V., Geldermann, J. & Rentz, O. (2005) Multi-Criteria Decision Support and Moderation Techniques for off-site Emergency Management, in: N. Free and A. Jones (Eds.), The International Emergency Management Society (TIEMS): 12th Annual Conference Proceedings, Faroe Islands, 60-70.
66. Raskob, W., Bertsch, V., Geldermann, J., Baig, S. & Gering, F. (2005) Demands to and experience with the Decision Support System RODOS for off-site emergency management in the decision making process in Germany, in: B. Van de Walle and B. Carlé (Eds.), Proceedings of the 2nd International Conference on Information Systems for Crisis Response and Management, Brussels, Belgium, 269-278.
67. Bertsch, V., Gering, F., Geldermann, J. & Rentz, O. (2005) Modelling, Propagation and Visualisation of Uncertainties in the Real-time On-line Decision Support System RODOS, International Conference on Monitoring, Assessments and Uncertainties for Nuclear and Radiological Emergency Response, Rio de Janeiro, Brazil.
68. Treitz, M., Schollenberger, H., Bertsch, V., Geldermann, J. & Rentz, O. (2004) Process Design based on Operations Research: A Metric for Resource Efficiency, Clean Environment for All: 2nd International Conference on Environmental Concerns: Innovative Technologies and Management Options, Xiamen, P.R.China, 842-853.

Working Papers

69. Schwarz, H., Bertsch, V. & Fichtner, W. (2015) Two-stage stochastic, large-scale optimization of a decentralized energy system – a residential quarter as case study, Working Paper Series in Production and Energy, No. 10, October 2015.