

Personal Data

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Research Interests

Operations Research; Combinatorial Optimization; Constrained Clustering; Machine Learning; Optimization in Finance

Professional Experience

- Nov 2015– *University of Bern*
Associate Professor in Quantitative Methods/Operations Research (2018–)
Assistant Professor in Quantitative Methods/Operations Research (2015–2018)
Courses designed and taught: Applied Business Analytics (MSc), Big Data Analytics (MSc), Business Analytics (BSc), Portfolio Optimization (MSc)
- 2014–2015 *University of California, Berkeley*
Postdoc at the Department of Industrial Engineering and Operations Research
- 2013–2014 *University of California, Berkeley*
Research Scholar at the Department of Industrial Engineering and Operations Research
- 2014 *University of Bern*
Lecturer
Course taught: Quantitative Decision Support (Fall 2014)
- 2007–2014 *University of Bern*
Postdoc in Quantitative Methods (2013–2014)
Teaching and Research Assistant in Quantitative Methods (2009–2013)
Junior Assistant in Quantitative Methods (2007–2009)
- Course designed and taught:
Portfolio Optimization (Spring 2014)
- Courses assisted:
Quantitative Methods in Business Administration I and II, Quantitative Decision Support, Application of Quantitative Methods (Seminar), Combinatorial Optimization, Project Management and Project Planning

Education

- 2009–2013 PhD in Business Administration, University of Bern, *summa cum laude*
Thesis Title: *Applications of Mathematical Programming in Operations and Finance*
- 2008–2009 Master of Science in Business Administration, University of Bern, *summa cum laude, graduation with highest distinction*
- 2007–2008 Military Service in the Swiss Armed Forces
- 2004–2007 Bachelor of Science in Business Administration, University of Bern, *insigni cum laude*
Minor: Computer Science

Awards

2019	Honourable mention award at the IEEE Conference on Ind. Eng. and Eng. Mgmt.
2019	Excellent Evaluation Award for course Big Data Analytics
2019	Excellent Evaluation Award for seminar Applied Business Analytics
2017	Honourable mention award at the IEEE Conference on Ind. Eng. and Eng. Mgmt.
2015	Honourable mention award at the IEEE Conference on Ind. Eng. and Eng. Mgmt.
2010	Honourable mention award at the IEEE Conference on Ind. Eng. and Eng. Mgmt.
2010	Schmeller-prize for best master thesis
2010	Prize for achieving the highest master grade in fall term 2009
2008	Prize for outstanding bachelor grade in fall term 2007

Academic Activities

Research Projects:

2023–	Co-PI of research project “Algorithmic Management – Establishing Fair and Participative Shift Planning in Healthcare”
2013–2015	Research Scholar/Postdoc at University of California, Berkeley in research project “Combinatorial algorithms and sparse computation for large-scale data mining”
2009–2013	PhD student at University of Bern in research project “Short-term scheduling of make-and-pack production” funded by The Swiss National Science Foundation (Grant No. 205121-125106)

Ad Hoc Reviewer for Journals:

Advances in Data Analysis and Classification, Computational Economics, Computers & Operations Research, Engineering Optimization, European Journal of Operational Research, Expert Systems with Applications, IEEE Transactions on Big Data, International Journal of Electrical Power and Energy Systems, International Journal of Production Economics, International Journal of Production Research, Journal of Empirical Finance, Journal of Heuristics, Operations Research Perspectives, Operational Research, OR Spectrum

Ad Hoc Reviewer for Conferences:

International Conference on Operations Research, IEEE International Conference on Computers & Industrial Engineering

Programm Committee Member of:

IEEE International Conference on Industrial Engineering and Engineering Management, International Conference on Operations Research 2021

Stream Organizer or Session Chairman at:

IEEE Conference on Ind. Eng. and Eng. Mgmt., Bangkok, European Conference on Operational Research, Valencia

(Session title: The Role of Mathematical Optimization in Data Science III), IEEE Conference on Ind. Eng. and Eng. Mgmt., Bali, ICPRAM Conference, Rome, IEEE Conference on Ind. Eng. and Eng. Mgmt., Singapore, INFORMS Annual Meeting, San Francisco

(Session title: Issues Related to Large-scale Data Mining), IEEE Conference on Ind. Eng. and Eng. Mgmt., Kuala Lumpur, INFORMS Annual Meeting, San Francisco, Annual Production and Operations Management Conference, Chicago, Multidisciplinary International Conference on Scheduling, Phoenix, International Conference on Operations Research

Member of the Dissertation Committee:
Xiaochen Chou (Università della Svizzera italiana, 2020)

Dissertation supervisor:
Tamara Bigler (University of Bern, 2018–2023)

Plenary talks:
2017 15th Swiss OR Days, Fribourg, Switzerland

Invited speeches:
2019 Statistics colloquium, University of Bern
2017 Kompetenztag Big Data - IMU-Weiterbildung, Bern, Switzerland

External Funding:
2023 Research project, SFr 500,000, funded by University of Bern, co-applicant: Christian Matt
2021 Industry project, SFr 4,366, funded by ELAG AST GmbH
2018 Industry project, SFr 166,778, funded by Swisscom (Schweiz) AG
2017 Industry project, SFr 18,488, funded by Swisscom (Schweiz) AG
2014 Janggen-Poehn Fellowship, SFr 10,000
2014 Innovation cheque, SFr 7,500, funded by the Swiss Commission for Technology and Innovation CTI (Project No. 17287.1 INNO13-16-ES)
2014 Innovation cheque, SFr 7,500, funded by the Swiss Commission for Technology and Innovation CTI (Project No. 17081.1 INNO-13-16-ES)
2014 Participation of 25th POMS conference, SFr 2,000, funded by Berne University Research Foundation, co-applicant: Norbert Trautmann
2013 International short visit, SFr 10,870, funded by The Swiss National Science Foundation (Project No. IZK0Z2 151046), co-applicant: Dorit Hochbaum
2012 Fundraising support for research project Scheduling of Assessment Centers, SFr 42,000

Executive Education Teaching

2023– CAS Artificial Intelligence Management for Business Value, HSLU

Other Activities

2013– Consulting mandates (BKW Energie AG, Swisscom (Schweiz) AG)
2018 Member of the cantonal assessment committee for the general reevaluation of non-agricultural properties, Canton of Bern

Professional Affiliations

Production and Operations Management Society (POMS), Institute for Operations Research and the Management Sciences (INFORMS), Swiss Operations Research Society (SVOR)

Publications and Presentations

Peer-reviewed journal articles

- [11] T. Bigler, M. Kammermann, and P. Baumann. A matheuristic for a customer assignment problem in direct marketing. *European Journal of Operational Research* 304, 689–708 (2023). [→available online](#).
- [10] M. Gnägi and P. Baumann. A matheuristic for large-scale capacitated clustering. *Computers & Operations Research* 132, 105304 (2021). [→available online](#).
- [9] P. Baumann, D.S. Hochbaum, and Y.T. Yang. A comparative study of the leading machine learning techniques and two new optimization algorithms. *European Journal of Operational Research* 272, 1041–1057 (2019). [→available online](#).
- [8] O. Strub and P. Baumann. Optimal construction and rebalancing of index-tracking portfolios. *European Journal of Operational Research* 264 (1), 370–387 (2018). [→available online](#).
- [7] T. Rihm and P. Baumann. Staff assignment with lexicographically ordered acceptance levels. *Journal of Scheduling* 21, 167–189 (2018). [→available online](#).
- [6] D.S. Hochbaum and P. Baumann. Sparse computation for large-scale data mining. *IEEE Transactions on Big Data* 2, 151–174 (2016). [→available online](#).
- [5] P. Baumann and N. Trautmann. A note on the selection of priority rules in software packages for project management. *Flexible Services and Manufacturing Journal* 28, 694–702 (2016). [→available online](#).
- [4] P. Baumann, S. Forrer, and N. Trautmann. Planning of a make-to-order production process in the printing industry. *Flexible Services and Manufacturing Journal* 27, 534–560 (2015). [→available online](#).
- [3] P. Baumann and N. Trautmann. A hybrid method for large-scale short-term scheduling of make-and-pack production processes. *European Journal of Operational Research* 236, 718–735 (2014). [→available online](#).
- [2] P. Baumann and N. Trautmann. Portfolio-optimization models for small investors. *Mathematical Methods of Operations Research* 77, 345–356 (2013). [→available online](#).
- [1] P. Baumann and N. Trautmann. A continuous-time MILP model for short-term scheduling of make-and-pack production processes. *International Journal of Production Research* 51, 1707–1727 (2013). [→available online](#).

Working papers

- [2] P. Baumann and D.S. Hochbaum. PCCC: The Pairwise-Confidence-Constraints-Clustering Algorithm (2023). Under review, [→available on arxiv](#).
- [1] P. Baumann and M. Kammermann. An integer optimization-based approach to fair clustering (2022). In preparation.

Conference proceedings

- [35] P. Baumann. FT-KMEANS: a fast algorithm for fault-tolerant facility location. In: *Proceedings of the 2022 IEEE International Conference on Industrial Engineering and Engineering Management*. Kuala Lumpur, 2022, pp. 502–506.
- [34] P. Baumann and D.S. Hochbaum. A k-means algorithm for clustering with soft must-link and cannot-link constraints. In: *Proceedings of the 11th International Conference on Pattern Recognition Applications and Methods*. Virtual Conference, 2022, pp. 195–202.

- [33] P. Baumann, M. Kammermann, and S. Elsaesser. Minimizing paper waste and setup costs in offset printing. In: *Proceedings of the 2021 IEEE International Conference on Industrial Engineering and Engineering Management*. Virtual Conference, 2021, pp. 858–862.
- [32] C. Schöni, P. Baumann, and N. Trautmann. An order-first split-second approach to a novel variant of the cardinality-constrained covering traveling salesperson problem. In: *Proceedings of the 2020 IEEE International Conference on Industrial Engineering and Engineering Management*. Virtual Conference, 2020, pp. 324–328.
- [31] P. Baumann. A binary linear programming-based k-means algorithm for clustering with must-link and cannot-link constraints. In: *Proceedings of the 2020 IEEE International Conference on Industrial Engineering and Engineering Management*. Virtual Conference, 2020, pp. 615–619.
- [30] T. Bigler, P. Baumann, and M. Kammermann. Optimizing customer assignments to direct marketing activities: a binary linear programming formulation. In: *Proceedings of the 2019 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by M. Wang, F. Li J.and Tsung, and A. Yeung. Macau, 2019, pp. 165–169.
- [29] P. Baumann. A binary linear programming-based k-means approach for the capacitated centered clustering problem. In: *Proceedings of the 2019 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by M. Wang, F. Li J.and Tsung, and A. Yeung. Macau, 2019, pp. 347–351.
- [28] P. Baumann. A matheuristic for a real-world variant of the multiple traveling salesman problem. In: *Proceedings of the 2018 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by T. Laosirihongthong, K. H. Chai, R. Jiao, and M. Xie. Bangkok, 2018, pp. 1426–1430.
- [27] M. Gnägi and P. Baumann. Large-scale clustering using mathematical programming. In: *Proceedings of the 2017 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by A. De Meyer, K.H. Chai, R. Jiao, N. Chen, and M. Xie. Singapore, 2017, pp. 789–793.
- [26] P. Baumann. Optimal staff assignment and routing in personalized home care. In: *Proceedings of the 2017 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by A. De Meyer, K.H. Chai, R. Jiao, N. Chen, and M. Xie. Singapore, 2017, pp. 1027–1031.
- [25] P. Baumann, D.S. Hochbaum, and Q. Spaen. High-performance geometric algorithms for sparse computation in big data analytics. In: *Proceedings of the 2017 IEEE International Conference on Big Data*. Ed. by J.-Y. Nie et al. Boston, 2017, pp. 546–555.
- [24] P. Baumann. Sparse-reduced computation for large-scale spectral clustering. In: *Proceedings of the 2016 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by K. Suryadi, B. Hartono, T.M.A. Ari Samadhi, N. Chen, and M. Xie. Bali, 2016, pp. 1284–1288.
- [23] C. Correa Shokiche, P. Baumann, R. Hlushchuk, V. Djonov, and M. Reyes. High-throughput glomeruli analysis of μ CT kidney images using tree priors and scalable sparse computation. In: *Proceedings of the 19th International Conference on Medical Image Computing and Computer Assisted Intervention*. Ed. by S. Ourselin, L. Joskowicz, M.R. Sabuncu, G. Unal, and W. Wells. Athens, 2016, pp. 370–378.
- [22] P. Baumann, D.S. Hochbaum, and Q. Spaen. Sparse-reduced computation: enabling mining of massively-large data sets. In: *Proceedings of the 5th International Conference on Pattern Recognition Applications and Methods*. Ed. by M. De Marsico, G. Sanniti di Baja, and A. Fred. Rome, 2016, pp. 224–231.
- [21] P. Baumann, R.J. Cooper, D.S. Hochbaum, N. Patel, and K. Shalia. Efficient deployment of mobile detectors for security applications. In: *Proceedings of the 2015 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by T. Magnanti, K. Chai, R. Jiao, S. Chen, and M. Xie. Singapore, 2015, pp. 214–218.

- [20] O. Strub and P. Baumann. Index tracking using data-mining techniques and mixed-binary linear programming. In: *Proceedings of the 2015 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by T. Magnanti, K. Chai, R. Jiao, S. Chen, and M. Xie. Singapore, 2015, pp. 1208–1212.
- [19] T. Rihm and P. Baumann. Improving fairness in staff assignment: An approach for lexicographic goal programming. In: *Proceedings of the 2015 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by T. Magnanti, K. Chai, R. Jiao, S. Chen, and M. Xie. Singapore, 2015, pp. 1247–1251.
- [18] T. Rihm and P. Baumann. A lexicographic goal programming approach for staff assignment with acceptance levels. In: *Proceedings of the 7th Multidisciplinary International Conference on Scheduling: Theory and Applications*. Ed. by Z. Hanzálek, G. Kendall, B. McCollum, and P. Šůcha. Prague, 2015, pp. 526–540.
- [17] D.S. Hochbaum and P. Baumann. Sparse computation for large-scale data mining. In: *Proceedings of the 2014 IEEE International Conference on Big Data*. Ed. by J. Lin et al. Washington DC, 2014, pp. 354–363.
- [16] P. Baumann and N. Trautmann. Efficient symmetry-breaking formulations for grouping customer orders in a printing shop. In: *Proceedings of the 2014 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by P. Ahmed, R. Jiao, P.L. Teh, and M. Xie. Malaysia, 2014, pp. 506–510.
- [15] P. Baumann and N. Trautmann. An MILP formulation for scheduling of work-content-constrained projects. In: *Proceedings of the 14th International Conference on Project Management and Scheduling*. Ed. by T. Fliedner, R. Kolisch, and A. Naber. München, 2014, pp. 24–27.
- [14] P. Baumann and N. Trautmann. Optimal scheduling of work-content-constrained projects. In: *Proceedings of the 2013 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by T. Laosirihongthong, R. Jiao, M. Xie, and R. Sirovetnukul. Bangkok, 2013.
- [13] P. Baumann and N. Trautmann. Operations scheduling in make-and-pack production: schedule construction and GA-based priority-rule generation procedures. In: *Proceedings of the 2012 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by S. Kwong, S. Ng, R. Jiao, and M. Xie. Hong Kong, 2012, pp. 362–366.
- [12] P. Baumann and N. Trautmann. A hybrid approach to large-scale short-term scheduling in make-and-pack production. In: *Proceedings of the 4th International Conference on Information Systems, Logistics and Supply Chain*. Québec, 2012.
- [11] P. Baumann and N. Trautmann. Heuristic decomposition and LP-based scheduling in make-and-pack production. In: *Proceedings of the 2011 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by S. Ng, R. Jiao, and M. Xie. Singapore, 2011, pp. 362–366.
- [10] P. Baumann and N. Trautmann. Minimizing changeover times of a make-and-pack production process: model and case study. In: *Proceedings of the 5th Multidisciplinary International Conference on Scheduling: Theory and Application*. Ed. by J. Fowler, G. Kendall, and B. McCollum. Phoenix, 2011, pp. 539–541.
- [9] N. Trautmann, P. Baumann, N. Saner, and T. Schäfer. Decomposition approaches for multi-stage multi-product batch-production scheduling: a refined batching model. In: *Proceedings of the 5th Multidisciplinary International Conference on Scheduling: Theory and Application*. Ed. by J. Fowler, G. Kendall, and B. McCollum. Phoenix, 2011, pp. 596–598.
- [8] P. Baumann and N. Trautmann. A continuous-time MILP to compute schedules with minimum changeover times for a make-and-pack production. In: *21st European Symposium on Computer Aided Process Engineering*. Ed. by E. Pistikopoulos, M. Georgiadis, and A. Kokossis. Amsterdam: Elsevier, 2011, pp. 1060–1064.

- [7] N. Trautmann, P. Baumann, N. Saner, and T. Schäfer. Batch sizing in multi-stage, multi-product batch production systems. In: *21st European Symposium on Computer Aided Process Engineering*. Ed. by E. Pistikopoulos, M. Georgiadis, and A. Kokossis. Amsterdam: Elsevier, 2011, pp. 905–909.
- [6] N. Trautmann and P. Baumann. An iterative backward/forward technique for the scheduling of resource-constrained projects within Microsoft Project. In: *Proceedings of the 2010 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by Z. Lian, Z. Wu, M. Xie, and R. Jiao. Macau, 2010, pp. 1558–1562.
- [5] P. Baumann and N. Trautmann. An MILP approach to short-term scheduling of an industrial make-and-pack production facility with batch splitting and quality release times. In: *Proceedings of the 2010 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by Z. Lian, Z. Wu, M. Xie, and R. Jiao. Macau, 2010, pp. 1230–1234.
- [4] N. Trautmann and P. Baumann. A bidirectional schedule-improvement procedure for Microsoft Project. In: *Proceedings of the 40th International Conference on Computers and Industrial Engineering*. Ed. by I. Kacem. Awaji, 2010.
- [3] P. Baumann, N. Trautmann, and A. Zimmermann. An implementation of the iterative forward/backward scheduling technique in Microsoft Project. In: *Proceedings of the 12th International Conference on Project Management and Scheduling*. Ed. by V. T’kindt. Tours, 2010, pp. 81–84.
- [2] N. Trautmann and P. Baumann. Resource-constrained scheduling of a real project from the construction industry: a comparison of software packages for project management. In: *Proceedings of the 2009 IEEE International Conference on Industrial Engineering and Engineering Management*. Ed. by H. Sund, R. Jiao, and M. Xie. Hong Kong, 2009, pp. 628–632.
- [1] N. Trautmann and P. Baumann. Resource-allocation capabilities of commercial project management software: an experimental analysis. In: *Proceedings of the 39th International Conference on Computers and Industrial Engineering*. Ed. by I. Kacem. Troyes, 2009, pp. 1155–1160.

Articles in edited volumes

- [3] P. Baumann and M.M. Keupp. Assessing the reliability of street networks: a case study based on the Swiss street network. In: *The Security of Critical Infrastructures: Risk, Resilience and Defense*. Ed. by M.M. Keupp. Cham: Springer International Publishing, 2020, pp. 111–129.
- [2] P. Baumann and N. Trautmann. Resource-constrained project scheduling with project management information systems. In: *Handbook on Project Management and Scheduling Vol. 2*. Ed. by C. Schwindt and J. Zimmermann. Cham: Springer International Publishing, 2015, pp. 1385–1400.
- [1] P. Baumann, C.-U. Fündeling, and N. Trautmann. The resource-constrained project scheduling problem with work-content constraints. In: *Handbook on Project Management and Scheduling Vol. 1*. Ed. by C. Schwindt and J. Zimmermann. Cham: Springer International Publishing, 2015, pp. 533–544.

Presentations

- [55] P. Baumann. *FT-KMEANS: a fast algorithm for fault-tolerant facility location*. December 7–10. IEEE International Conference on Industrial Engineering and Engineering Management, Kuala Lumpur, 2022.

- [54] P. Baumann. *An integer programming-based algorithm for semi-supervised clustering*. October 16–19. INFORMS Annual Meeting, Indianapolis, 2022.
- [53] P. Baumann. *An integer optimization-based approach to fair clustering*. July 3–6. 32nd European Conference on Operational Research, Espoo, 2022.
- [52] P. Baumann. *A k-means algorithm for clustering with soft must-link and cannot-link constraints*. February 3–5. International Conference on Pattern Recognition Applications and Methods, Virtual Conference, 2022.
- [51] P. Baumann. *Minimizing paper waste and setup costs in offset printing*. December 13–16. IEEE International Conference on Industrial Engineering and Engineering Management, Virtual Conference, 2021.
- [50] P. Baumann. *Clustering with weighted must-link and cannot-link constraints*. October 24–27. INFORMS Annual Meeting, Anaheim, 2021.
- [49] P. Baumann. *A k-means algorithm for clustering with hard and soft must-link and cannot-link constraints*. August 31–September 3. International Conference on Operations Research, Virtual Conference, 2021.
- [48] P. Baumann. *Large-scale customer assignment in direct marketing*. April 30–May 5. 31st Annual POMS Conference, Virtual Conference, 2021.
- [47] P. Baumann. *A binary linear programming-based k-means algorithm for clustering with must-link and cannot-link constraints*. December 14–17. IEEE International Conference on Industrial Engineering and Engineering Management, Virtual Conference, 2020.
- [46] P. Baumann. *A binary linear programming-based k-means approach for the capacitated centered clustering problem*. December 15–18. IEEE International Conference on Industrial Engineering and Engineering Management, Macau, 2019.
- [45] P. Baumann. *Optimal customer selection for direct marketing campaigns*. May 2–6. 30th Annual POMS Conference, Washington D.C., 2019.
- [44] P. Baumann. *Comparing two new combinatorial optimization algorithms for binary classification to leading machine learning techniques*. May 17. Colloquia of the Department of Mathematical Statistics and Actuarial Sciences of the University of Bern, Bern, 2019.
- [43] P. Baumann. *Comparing two new combinatorial optimization algorithms to leading machine learning techniques*. June 23–26. 30th European Conference on Operational Research, Dublin, 2019.
- [42] P. Baumann. *A matheuristic for a real-world variant of the multiple traveling salesman problem*. December 16–19. IEEE International Conference on Industrial Engineering and Engineering Management, Bangkok, 2018.
- [41] P. Baumann. *Scaling up similarity-based machine learning models: New geometric algorithms for sparse computation*. July 8–11. 29th European Conference on Operational Research, Valencia, 2018.
- [40] P. Baumann. *A matheuristic for a multi-period home care routing and scheduling problem*. May 4–7. 29th Annual POMS Conference, Houston, 2018.
- [39] P. Baumann. *Optimal staff assignment and routing in personalized home care*. December 10–13. IEEE International Conference on Industrial Engineering and Engineering Management, Singapore, 2017.
- [38] P. Baumann. *Scaling up data mining techniques*. June 29–30. Plenary talk at 15th Swiss Operations Research Days, Fribourg, 2017.
- [37] P. Baumann. *Segmentation of medical images using mathematical programming*. May 5–8. 28th Annual POMS Conference, Seattle, 2017.
- [36] P. Baumann. *Sparse-reduced computation for large-scale spectral clustering*. December 4–7. IEEE International Conference on Industrial Engineering and Engineering Management, Bali, 2016.

- [35] P. Baumann. *Sparse-reduced computation: enabling mining of massively-large data sets*. February 24–26. 5th International Conference on Pattern Recognition Applications and Methods, Rome, 2016.
- [34] P. Baumann. *Efficient deployment of mobile detectors for security applications*. December 6–9. IEEE International Conference on Industrial Engineering and Engineering Management, Singapore, 2015.
- [33] P. Baumann. *Using combinatorial optimization for large-scale data mining*. August 10–14. The 8th International Congress on Industrial and Applied Mathematics, Beijing, 2015.
- [32] P. Baumann. *Similarity-based machine learning in large-scale data sets*. July 12–17. 22nd International Symposium on Mathematical Programming, Pittsburgh, 2015.
- [31] P. Baumann. *A hybrid goal programming approach for staff assignment*. June 14–17. CORS/ INFORMS International Conference, Montreal, 2015.
- [30] P. Baumann and N. Trautmann. *Efficient symmetry-breaking formulations for grouping customer orders in a printing shop*. December 9–12. IEEE International Conference on Industrial Engineering and Engineering Management, Malaysia, 2014.
- [29] P. Baumann. *A computational comparison of machine learning methods and the supervised normalized cut*. November 9–12. Informs annual meeting, San Francisco, 2014.
- [28] P. Baumann. *Efficient symmetry-breaking formulations for grouping customer orders in a printing shop*. August 31–September 3. Programme Doctoral en Recherche Opérationnelle, Zinal, 2014.
- [27] P. Baumann. *Sparse computation for large-scale binary classification*. July 13–18. 20th IFORS Conference, Barcelona, 2014.
- [26] P. Baumann. *Efficient binary classification of large data sets*. May 9–12. 25th Annual POMS Conference, Atlanta, 2014.
- [25] P. Baumann. *A MILP formulation for scheduling of work-content-constrained projects*. March 30–April 2. 14th International Conference on Project Management and Scheduling, Munich, 2014.
- [24] P. Baumann. *Portfolio-optimization models for small investors*. January 28. Center for Risk Management Research, UC Berkeley, Berkeley. 2014.
- [23] P. Baumann and N. Trautmann. *Optimal Scheduling of Work-Content-Constrained Projects*. December 10–12. IEEE International Conference on Industrial Engineering and Engineering Management, Bangkok, 2013.
- [22] P. Baumann. *User Influence on Resource Allocation with Project Management Software*. October 16–18. 43rd International Conference on Computers and Industrial Engineering, Hong Kong. 2013.
- [21] P. Baumann. *Short-term scheduling of make-and-pack production processes: a hybrid method for large-scale instances*. July 1–4. 26th European Conference on Operational Research, Rome. 2013.
- [20] P. Baumann. *Planning of a make-to-order printing process: MBLP formulation and matching-based savings heuristic*. May 27–29. 55th CORS Annual Conference, Vancouver. 2013.
- [19] P. Baumann. *A hybrid heuristic for operations scheduling of make-and-pack production processes*. May 3–6. 24th Annual POMS Conference, Denver. 2013.
- [18] P. Baumann. *Operations scheduling in make-and-pack production: schedule construction and GA-based priority-rule generation procedures*. December 10–13. IEEE International Conference on Industrial Engineering and Engineering Management, Hong Kong. 2012.
- [17] P. Baumann. *Planning of a continuous production process in the printing industry*. November 21–22. Workshop on large-scale optimization, Vevey. 2012.
- [16] P. Baumann. *A hybrid approach to large-scale short-term scheduling in make-and-pack production*. August 26–29. 4th International Conference on Information Systems, Logistics and Supply Chain, Québec. 2012.

- [15] P. Baumann. *A hybrid approach to large-scale short-term scheduling in make-and-pack production*. July 16–20. Operational Research Peripatetic Postgraduate Program, Linz. 2012.
- [14] P. Baumann. *Planning of a continuous production process in the printing industry*. July 8–11. 25th European Conference on Operational Reserach, Vilnius. 2012.
- [13] P. Baumann. *A priority-rule based genetic algorithm for large-scale short-term scheduling in make-and-pack production*. June 28–29. 10th Joint Operations Research Days, Neuchâtel. 2012.
- [12] P. Baumann. *A hybrid approach to large-scale short-term scheduling in make-and-pack production*. June 24–27. INFORMS International Conference, Beijing. 2012.
- [11] P. Baumann. *Large-scale short-term scheduling in make-and-pack production: case study and GA-based approach*. April 20–23. 23rd Annual POMS Conference, Chicago. 2012.
- [10] P. Baumann. *Heuristic decomposition and LP-based scheduling in make-and-pack production*. January 15–19. Programme doctoral en recherche opérationnelle, Zinal. 2012.
- [9] P. Baumann. *Heuristic decomposition and LP-based scheduling in make-and-pack production*. December 6–9. IEEE International Conference on Industrial Engineering and Engineering Management. Singapore, 2011.
- [8] P. Baumann. *A continuous-time MILP-approach to short-term scheduling of make-and-pack production processes*. August 31–September 2. Operations Research 2011. Zürich, 2011.
- [7] P. Baumann. *Minimizing changeover times of a make-and-pack production process: model and case study*. August 9–12. Multidisciplinary International Conference on Scheduling : Theory and Applications. Phoenix, 2011.
- [6] P. Baumann. *Portfolio-selection models for small investors*. July 10–15. 19th Triennial Conference of the International Federation of Operational Research Societies. Melbourne, 2011.
- [5] P. Baumann. *A continuous-time MILP to compute schedules with minimum changeover times for a make-and-pack production*. May 29–June 1. 21st European Symposium on Computer Aided Process Engineering. Chalkidiki, 2011.
- [4] P. Baumann. *A continuous-time MILP approach to short-term scheduling of an industrial make-and-pack production process*. May 12–13. Ninth Joint Operations Research Days. Bern, 2011.
- [3] P. Baumann. *An MILP approach to short-term scheduling of an industrial make-and-pack production facility with batch splitting and quality release times*. December 7–10. IEEE International Conference on Industrial Engineering and Engineering Management. Macau, 2010.
- [2] P. Baumann. *Portfolio-selection models for small investors*. September 9–10. Eighth Joint Operations Research Days. Fribourg, 2010.
- [1] P. Baumann and N. Trautmann. *An implementation of the iterative forward/backward scheduling technique in Microsoft Project*. April 26–28. 12th International Conference on Project Management and Scheduling. Tours, 2010.