

**Wolfgang Bein**  
Department of Computer Science  
University of Nevada, Las Vegas

## Curriculum Vitae I

### Experience

University of Nevada, Las Vegas, Department of Computer Science.  
Professor, July 2010 – present.

During this time also:

- Co-Director, Center for Information Technology and Algorithms, December 2004 – present.
- Kyoto University Visiting Professor. Kyoto University, School of Informatics, Kyoto, Japan. August 2006 – November 2006.

University of Nevada, Las Vegas, Department of Computer Science.  
Associate Professor, July 2004 – June 2010.

University of Nevada, Las Vegas, Department of Computer Science.  
Assistant Professor, July 1998 – June 2004.

University of Texas, Dallas, Department of Computer Science.  
Senior Lecturer, January 1994 – June 1998.

American Airlines, Decision Technologies.  
Operations Research Analyst, July 1992 – May 1994.

University of New Mexico, Department of Computer Science.  
Assistant Professor, August 1988 – June 1992.

Duke University, Department of Computer Science. Research Assistant Professor of Computer Science, September 1986 – July 1988.

University of California, Berkeley, Departments of Computer Science and IEOR. Visiting Scholar at the University of California, Berkeley, under a scholarship from the DAAD (German granting agency), August 1985 – August 1986.

### Education

Ph.D. in Mathematics/Computer Science, (Thesis on Network Flows at Berkeley), University of Osnabrueck, Germany (1987).

Diplom (M.S.) in Mathematics, University of Osnabrueck, Germany (1981).

Citizenship U.S.

### Professional Memberships

Association for Computing Machinery (ACM), SIGACT.

American Association of University Professors (AAUP) and Nevada Faculty Alliance.

**Awards and Recognition**

- 2008/2009 UNLV, School of Computer Science Distinguished Research Award.
- 2007/2008 UNLV, School of Computer Science Distinguished Research Award.
- 2007/2008 Honorable mention for “Distinguished College Researcher”.
- 2002/2003 UNLV, College of Engineering Distinguished Teaching Award.
- 2002 International Multi-Conference in Computer Science, Achievement Award.

**Book Chapters**

- Bein W, Advanced Techniques for Dynamic Programming. In Pardalos P, Du D., Graham R, Editors, *Handbook of Combinatorial Optimization*, 2nd Edition, Springer Verlag, 41 – 91, 2013.
- Bein W, Bein D, Fault Tolerance and Transmission Reliability in Wireless Networks. In Khan S, Zomaya A, Wang L, Editors, in *Scalable Computing and Communications: Theory and Practice*, John Wiley & Sons, 227 – 256, 2013.

**Articles in refereed journals**

- Bein W, Larmore LL, Noga J, Knowledge State Algorithms. *Algorithmica*, 60(3): 653 – 678, 2011.
- Bein W, Iwama K, Kawahara J, Larmore L, Oravec J. A Randomized Algorithm for Two Servers in Cross Polytope Spaces. *Theoretical Computer Science*. 412 (7): 563 –572, 2011.
- Bein D, Bein W, Madiraju P. The Impact of Cloud Computing on Web 2.0, *Economy Informatics Journal*. Vol. 9, No. 1/2009.
- Bein W, Larmore LL, Golin M, Zhang Y. The Knuth-Yao Quadrangle-Inequality Speedup is a Consequence of Total-Monotonicity. *ACM Transactions on Algorithms*. 6(1), 22 pages, 2009.
- Bein D, Bein W, Malladi S. Fault Tolerance Coverage Models for Sensor Networks. *International Journal of Sensor Networks*, 5(4): 199 – 209, 2009.
- Bein W, Epstein L, Larmore LL, Noga J. Optimally Competitive List Batching. *Theoretical Computer Science*, 410(38-40): 3631 – 3639, 2009.
- Bein W, Larmore LL, Morales L, Sudborough IH. A Quadratic Time 2-Approximation Algorithm for Block Sorting. *Theoretical Computer Science*, 410(8 –10): 711 – 717, 2009.
- Bein W, Larmore LL, Reischuk R. Knowledge States for the Caching Problem in Shared Memory Multiprocessor Systems. *International Journal of Foundations of Computer Science*, 20(1): 167 – 183, 2009.

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**Curriculum Vitae III**

Bein W, Correa J, Han X. A Fast Asymptotic Approximation Scheme for Bin Packing with Rejection. *Theoretical Computer Science*, 393(1-3): 14 – 22, 2008.

Bein W, Iwama K, Kawahara J. Randomized Competitive Analysis for Two-Server Problems. *Algorithms*, 1: 30 – 42, 2008.

Bein W, Noga J, and Wiegley J. Approximation for Batching via Priorities. *Scientific Annals of Computer Science*, 17: 1 – 18, 2007.

Bein W, Larmore LL, Noga J. Uniform Metrical Task Systems with a Limited Number of States. *Information Processing Letters*, 104(4): 123 – 128, 2007.

Bein W, Brucker P, Larmore LL, Park JK. The Algebraic Monge Property and Path Problems. *Discrete Applied Mathematics*, 145(3): 455 – 464, 2005.

Bein W, Larmore LL, Shields C, and Sudborough IH. Embedding a Complete Binary Tree into a Three-Dimensional Grid. *Journal of Interconnection Networks*, 5(2): 111 – 130, 2004.

Bein W, Larmore, LL. Trackless and Limited-Bookmark Algorithms for Paging. *ACM SIGACT News*, 35(1): 38 – 48, 2004.

Bein W, Bein D, Brajkovska N, Latifi S. An Optimal Embedding of Honeycomb Networks into Hypercubes. *Parallel Processing Letters*, 14(3-4): 367 – 375, 2004.

Bein W, Larmore LL, Latifi S, Sudborough IH. Block Sorting is Hard. *International Journal of Foundations of Computer Science*, 14 (3): 425 – 437, 2003.

Bein W, Brucker P, Hoffman AJ. Series Parallel Composition of Greedy Linear Programming Problems. Reprinted in: Hoffman AJ (Author), Micchelli C (Editor), Selected Papers of Alan Hoffman: with Commentary. *World Scientific Publishing Company*, 353 – 366, 2003.

Bein W, Chrobak M, Larmore LL. The 3-Server Problem in the Plane. *Theoretical Computer Science*, 289(1): 335 – 354, 2002.

Bein W, Fleischer R, and Larmore LL. Limited Bookmark Randomized Online Algorithms for the Paging Problem. *Information Processing Letters*, 76(4-6): 155 – 162, 2000.

Bein W, Larmore LL. Trackless Online Algorithms for the Server Problem. *Information Processing Letters*, 74(1-2): 73 – 79, 2000.

Bein W, Pathak PK. A Characterization of the Monge Property and its Connection to Statistics. *Demonstratio Mathematica*, 29( 2): 451 – 457, 1996.

Bein W, Brucker P, Park JK, Pathak PK. A Monge Property for the  $d$ -Dimensional Transportation Problem. *Discrete Applied Mathematics*, 58(2): 97 – 109, 1995.

Chang LC, Bein W, Angel E. Surface Intersection using Parallelism. *Computer-Aided Geometric Design*, 11(1): 39 – 69, 1994.

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**Curriculum Vitae IV**

Bein W, Brucker P, Hoffman AJ. Series Parallel Composition of Greedy Linear Programming Problems. *Mathematical Programming*, 62(1): 1 – 14, 1993.

Bein W, Kamburowski J, Stallmann MFM. Optimal Reduction of Two-Terminal Directed Acyclic Graphs. *SIAM Journal on Computing*, 21(6): 1112 – 1129, 1992.

Bein W, Brucker P, Stallmann MFM. A Characterization of Network Representable Polymatriods. *Zeitschrift für Operations Research*, 35: 267 – 272, 1991.

Chang LC, Bein W, Angel E. Surface Intersection using Parallel Subdivision. *Supercomputer*, 7(6): 62 – 70, 1990.

Bein W, Brucker P. An  $O(n \log n)$ -Algorithm for a Special Class of Linear Programs. *Computing*, 42: 309 – 113, 1989.

Bein W, Brucker P. Greedy Concepts for Network Flow Problems. *Discrete Applied Mathematics*, 15(2-3): 135 – 144, 1986.

Bein W, Brucker P, Tamir A. Minimum Cost Flow Algorithms for Series Parallel Networks. *Discrete Applied Mathematics*, 10(2): 117 – 124, 1985.

Bein W. On Dynamic Leontief Models. *Methods of Operations Research*, 46: 97 – 206, 1983.

**Articles in refereed conference proceedings**

Andro-Vasko J, Bein W, Ito H, Nyknahad D. Evaluation of Online Power-Down Algorithms, submitted to *12th International Conference on Information Technology*.

Bein D, Bein W, Madan B, Karki A. Optimizing Border Patrol Operations Using Unmanned Aerial Vehicles, submitted to *12th International Conference on Information Technology*.

Bang L, Bein W, Larmore LL. R-LINE: A Better Randomized 2-Server Algorithm on the Line, *Proceedings of the 10th Workshop on Approximation and Online Algorithms (WAOA2012)*, LNCS 7846, Springer Verlag, 120 – 130, 2013.

Bein W, Hatta N, Hernandez-Cons N, Ito H, Kasahara S, and Kawahara J, An Online Algorithm Optimally Self-Tuning to Congestion for Power Management Problems, *Proceedings of the 9th Workshop on Approximation and Online Algorithms (WAOA 2011)*, LNCS, Springer, #7164, 35 – 48, 2012.

Bein D, Bein W, Venigella S. Cloud Storage and Online Bin Packing, *Proceedings of the 5th International Symposium on Intelligent Distributed Computing (IDC 2011)*, Studies in Computational Intelligence, 63-68, 2012.

Bein D, Bein W, Phoha S. Efficient Data Centers, Cloud Computing in the Future of Distributed Computing, *7th International Conference on Information Technology*, IEEE Computer Society Press, 2010.

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**Curriculum Vitae V**

Bein W, Jeffery C. Towards an Openness Rating System for Open Source Software, In *Proceedings of the 43rd Annual International Conference on System Sciences* (CD-ROM), IEEE Computer Society Press, 2010.

Bein W, Latifi S, Morales L, and Sudborough IH. Bounding the Size of k-Tuple Covers. In *Proceedings of the 42st Annual Hawaii International Conference on System Sciences* (CD-ROM), IEEE Computer Society Press, 10 pages, 2009.

Bein W, Iwama K, Kawahara J. Randomized Competitive Analysis for Two-Server Problems. In *Proceedings of the 16th Annual European Symposium (ESA 08)*, Karlsruhe, Germany, Springer Verlag, Lecture Notes in Computer Science LNCS 5193, 161 – 172, 2008.

Bein D, Bein W. Wireless Communication in Ubiquitous Environments, an Easy Target to Attacks. In *Proceedings of the 7th RoEduNet International Conference*, 17 – 20, UT Press, ISBN 978-973-662-393-6, 2008.

Bein W, Noga J, and Wiegley J. Priority Approximation for Batching. In *Proceedings of the 41st Annual Hawaii International Conference on System Sciences* (CD-ROM), IEEE Computer Society Press, 10 pages, 2008.

Bein D, Bein W, Meng Z, Morales L, Shields CO, and Sudborough IH. Clustering and the Biclique Partition Problem. In *Proceedings of the 41st Annual Hawaii International Conference on System Sciences* (CD-ROM), IEEE Computer Society Press, 10 pages, 2008.

Adusumilli K, Bein D, Bein W. A Genetic Algorithm for the Two Machine Flow Shop Problem. In *Proceedings of the 41st Annual Hawaii International Conference on System Sciences* (CD-ROM), IEEE Computer Society Press, 8 pages, 2008.

Bein W, Larmore LL, Reischuk R. Knowledge States: A Tool for Randomized Online Algorithms. In *Proceedings of the 41st Annual Hawaii International Conference on System Sciences* (CD-ROM), IEEE Computer Society Press, 10 pages, 2008.

Bein W, Iwama K, Kawahara J, Larmore L, Oravec J. A Randomized Algorithm for Two Servers in Cross Polytope Spaces. In *Proceedings of the 5th Workshop on Approximation and Online Algorithms (WAOA 07)*, Eilat, Israel, October 11-12, 2007, Springer Verlag, Lecture Notes in Computer Science LNCS 4927, 246 – 259, 2008.

Bein W, Larmore L, Noga J. Equitable Revisited. In *Proceedings of the 15th Annual European Symposium (ESA 07)*, Eilat, Israel, October 8-10, 2007, Springer Verlag, Lecture Notes in Computer Science LNCS 4698, 419 – 426, 2007.

Bein W, Correa J, Han X. A Fast Asymptotic Approximation Scheme for Bin Packing with Rejection. In *Proceedings 1st International Symposium on Combinatorics, Algorithms, Probabilistic and Experimental Methodologies (ESCAPE 07)*, Hangzhou, China, Springer Verlag, Lecture Notes in Computer Science LNCS 4614, 209 – 218, 2007.

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**Curriculum Vitae VI**

Bein D, Bein W, Cazacu AM, Brut M. Why is it Hard to Patent an Invention. In *Proceedings of the 8th International Conference on Informatics in Economy (ICIE 07)*, ASE Printing House, pages 133 –138, 2007.

Bein W. Copyright, an Incentive or a Burden. In *Proceedings of the 8th International Conference on Informatics in Economy (ICIE 2007)*, ASE Printing House, 139 – 144, 2007.

Bein D, Bein W, Jolly V, Latifi S. Guarding against Web Spoofing and Phishing Attacks. In *Proceedings of the 5th RoEduNet IEEE International Conference*, Remus Brad (Ed.), L. Blaga University Press, Sibiu, (ISBN (10) 973-739-277-9), 106 – 109, 2006.

Bein W, Larmore LL, Golin M, Zhang Y. The Knuth-Yao Quadrangle-Inequality Speedup is a Consequence of Total-Monotonicity. In *Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (SODA 06)*, ACM Press, 31 – 40, 2006.

Bein W, Larmore LL, Noga J. A Better Algorithm for Uniform Metrical Task Systems with Few States. In *Proceedings of the 8th International Symposium on Parallel Architectures, Algorithms and Networks (ISPAN 05)*, IEEE Computer Society, 94 – 99, 2005.

Bein D, Bein W, Malladi S. Fault Tolerant Coverage Model for Sensor Networks. In *Proceedings of the 5th International Conference on Computational Science (ICCS 2005)*, Atlanta, Georgia, Springer Verlag, Lecture Notes in Computer Science LNCS 3515, 535 – 542, 2005.

Bein W, Iwama I, Larmore LL, Noga J. The Delayed k-Server Problem. In *Proceedings of the 15th International Symposium on Fundamentals of Computation Theory (FCT 05)*, Lübeck, Germany, Springer Verlag, Lecture Notes in Computer Science LNCS 3623, 281- 292, 2005.

Bein W, Larmore LL, Morales L, Sudborough IH. A Faster and Simpler 2-Approximation Algorithm for Block Sorting. In *Proceedings of the 15th International Symposium on Fundamentals of Computation Theory (FCT 05)*, Lübeck, Germany, Springer Verlag, Lecture Notes in Computer Science LNCS 3623, 115 – 124, 2005.

Bein D, Bein W, Jolly V, Latifi S. Privacy and Security on Internet: Virtual Private Networks. In *Proceedings of the 3rd RoEduNet International Conference*, Timisoara, Romania, Transactions on Automatic Control and Computer Science, Vol. 49(63), 39 – 42, 2004.

Bein W, Epstein L, Larmore LL, Noga J. Optimally Competitive List Batching. In *Proceedings of the 9th Scandinavian Workshop on Algorithm Theory (SWAT 04)*, Copenhagen, Denmark, Springer Verlag, Lecture Notes in Computer Science LNCS 3111, 77 – 89, 2004.

Bein W, Larmore LL, Reischuk R. Knowledge States for the Caching Problem in Shared Memory Multiprocessor Systems. In *Proceedings of the 7th International Symposium on Parallel Architectures, Algorithms and Networks (ISPAN 04)*, IEEE Computer Society, Hong Kong, 307 – 312, 2004.

Bein W. Malicious Internet Use and Homeland Security. In *Proceedings of the 2nd RoEduNet International Conference*, Iasi, Romania, 23 – 26, 2003.

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**Curriculum Vitae VII**

Bein W, Coombs JS, Taghva K. A Method for Calculating Term Similarity on Large Document Collections. In *Proceedings of the International Symposium on Information Technology: Coding and Computing (ITCC 03)*, Las Vegas, Nevada, IEEE Computer Society, 199 – 203, 2003.

Bein W, Brucker P, Larmore LL, Park JK. Fast Algorithms with Algebraic Monge Properties. In *Proceedings of the 27th International Symposium on Mathematical Foundations of Computer Science (MFCS 02)*, Warsaw, Poland, August 2002, Springer Verlag, Lecture Notes in Computer Science LNCS 2420, 104 – 117, 2002.

Bein W, Larmore LL, Shields C, and Sudborough IH. Fixed Layer Embeddings of Binary Trees. In *Proceedings of the 6th International Symposium on Parallel Architectures, Algorithms and Networks (ISPAN 02)*, Manila, Philippines, IEEE Computer Society, 281 – 288, 2002.

Bein W, Larmore LL, Latifi S, and Sudborough IH. Block sorting is hard. In *Proceedings of the 6th International Symposium on Parallel Architectures, Algorithms and Networks (ISPAN 02)*, Manila, Philippines, IEEE Computer Society, 349 – 354, 2002.

Bein, W, Hendricks BJ. Pitfalls with Adaptive Methods for Combinatorial Optimization: The Traveling Salesman - A Case Study. In *Proceedings of the International Conference on Mathematics and Engineering Techniques in Medicine and Biological Sciences (METMBS 02)*, Las Vegas, Nevada, June 2002, CSREA Press Volume 1, 243 – 248, 2002.

Bein W, Larmore LL, Shields C, and Sudborough IH. Three-Dimensional Embedding of Binary Trees. In *Proceedings of the 5<sup>th</sup> International Symposium on Parallel Architectures, Algorithms and Networks (ISPAN 00)*, Dallas, Texas, IEEE Computer Society, 140 – 147, 2000.

Gobi R, Latifi S, Bein W, Adaptive Sorting Algorithms for Evaluation of Automatic Zoning Employed in OCR Devices. In *Proceedings of the International Conference on Imaging Science, Systems, and Technology (CISST 00)*, Las Vegas, Nevada, CSREA Press, 253 – 259, 2000.

Bein, W, Hendricks BJ. Artificial Neural Network Architectures via Genetic Algorithms using Nested Graph Grammars. In *Proceedings of the International Conference on Mathematics and Engineering Techniques in Medicine and Biological Sciences (METMBS 00)*, Las Vegas, Nevada, CSREA Press, Volume 2, 575 – 578, 2000.

Bein W, Chrobak M, Larmore LL. The 3-Server Problem in the Plane. In *Proceedings of the 7th Annual European Symposium (ESA 99)*, Prague, Czech Republic, July 1999, Springer Verlag, Lecture Notes in Computer Science LNCS 1643, 301 – 312, 1999.

Bein W, Brucker P, Park JK. Applications of an Algebraic Monge Property. In *Proceedings of the 3rd Twente Workshop on Graphs and Combinatorial Optimization*, Universiteit Twente, Netherlands, Faigle U., Hoede C. (Eds.), Memorandum No. 1132, 8 – 12, 1993.

**Books edited**

Proceedings of the 8<sup>th</sup> International Symposium on Parallel Architectures, Algorithms and Networks. IEEE Computer Society, ISBN 0-7695-2509-1, 2005.

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## Curriculum Vitae VIII

Proceedings of the International Symposium on Information Technology: Coding and Computing, IEEE Computer Society, 2003.

Proceedings of the International Conference on Mathematics and Engineering Techniques in Medicine and Biological Sciences, CSREA Press, Associate Editor, 2002.

Proceedings of the International Conference on Mathematics and Engineering Techniques in Medicine and Biological Sciences, CSREA Press, Associate Editor, 2000.

### **Selected Invited Presentations**

The Design of Randomized Algorithms, EURO 2010, Invited Plenary Talk, Lodging and travel fully endowed by the University of the Armed Forces, Munich, September 2010.

Knowledge States with an Application to Cross Polytope Spaces. NSF-sponsored Workshop on Algorithms, Combinatorics, and Geometry (ACG 07), University of North Texas, Denton, Texas, November 29 – December 1, 2007. Semi-plenary invited talk, received stipend funded by NSF.

Knowledge States: A Tool in Randomized Online Algorithms. 3rd Bertinoro Workshop on Algorithms and Data Structures (ADS 07), Bertinoro, Italy, September 30 – October 6, 2007. Semi-plenary invited talk. The workshop was co-sponsored by BICI, the for Informatics, and DIMACS, the for Discrete Mathematics and Theoretical Computer Science at Rutgers University. The organizers – Camil Demetrescu (University of Rome "La Sapienza"), Andrew Goldberg (Microsoft Research), Robert Tarjan (Princeton University) – covered lodging, and conference fee.

The k-Server Problem. Multi-Conference for Operations Research, University of the Federal Armed Forces, Munich, March 5 – March 7, 2007. One of three invited plenary talks. Lodging and conference fee were provided by the University of the Federal Armed Forces.

Knowledge States: A Tool in Randomized Online Algorithms., 1st Canadian Discrete and Algorithmic Mathematics Conference (Canadam 07), Banff Conference Center, Alberta, Canada, May 28-31, 2007. Semi-plenary talk of the mini-symposium Games on Graphs (Organizer Professor S. Pickl) .

Online and Offline List Batching. Combinatorial Optimization and Applications, a workshop in honor of retirement of Professor Peter Brucker, Universität Osnabrück, March 1, 2007. Semi-plenary talk.

Online and Offline List Batching, Kyoto University, Invited talk at a mini-conference on algorithms (one of three invited talks); Organizer Professor K. Iwama. The other two talks were given by Professor Oscar Ibarra (UC Santa Barbara) and Richard Ladner (Boeing Professor in Computer Science and Engineering, University of Washington), October 2006.

Knowledge States: A Tool in Randomized Online Algorithms. 19th International Symposium on Mathematical Programming (ISMP 06), Rio de Janeiro, July 30 – August 4, 2006. Semi-plenary talk; organizer Professor K. Pruhs (University of Pittsburgh).

A Few Classic Examples in Complex Systems and Genetic Algorithms. Workshop on Modeling Complex Systems, US Geological Survey, Reno, Nevada, November 20-21, 2002. Invited Survey Talk.



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**Curriculum Vitae IX**

Knowledge State Algorithms. Seminar Number 02271 Online Algorithms, Schloss Dagstuhl – International Conference and Research Center for Computer Science, Wadern, Germany, June 30 - July 5, 2002; Abstract published in Seminar N° Report 347.

Monge Properties: Contemporary Tools for Efficient Algorithms, DIMACS Workshop on Codes and Trees: Algorithmic and Information Theoretic Approaches, Invited Survey Talk, Rutgers University, Piscataway, October 5-7, 1998.

Monge Based Algorithms. New Mexico State University, Las Cruces, Miniconference on Concepts in Computational Geometry held by Frank Harary, 1990.

**Selected Colloquia**

Competitive Power-down Mechanisms for Green Computing, Universität zu Lübeck, Institut für Theoretische Informatik, November 11, 2014. Also given at University of Idaho, September 29, 2014.

Knowledge States: A Tool in Randomized Online Algorithms, University of Electro-Communications, Tokyo, Institut für Theoretische Informatik, July 16, 2014.

Knowledge States: A Tool in Randomized Online Algorithms", Universität zu Lübeck, Institut für Theoretische Informatik, November 8, 2012.

Knowledge States: A Tool in Randomized Online Algorithms. School of Informatics, Kyoto University, March 11, 2009 and University of Rochester, April 26, 2010.

Batching Algorithms. Computer Science Theory Group, University of Texas at Dallas, February 21, 2007.

Monge Properties. Institut für Angewandte Systemwissenschaften und Wirtschaftsinformatik, University of the Federal Armed Forces, Munich, Germany, June 2005. Also given at Sinica, Institute of Mathematics, Taipei, Taiwan, May 14, 2004.

The k-Server Problem. Institut für Angewandte Systemwissenschaften und Wirtschaftsinformatik, University of the Federal Armed Forces, Munich, Germany, June 2005.

Knowledge State Algorithms and Paging. School of Informatics Kyoto, University, December 22, 2004.

The k-Server Problem – The State of the Art. School of Informatics Kyoto, University, December 15, 2004. Also given at Université de Picardie, Jules Verne, Amiens, 2003; Universität Köln, 2003; Universität Osnabrück, Germany, 2003; Christian-Albrechts Universität Kiel, Germany, December 2002.

Knowledge State Algorithms. Rheinische Friedrich Wilhelms Universität Bonn, Institut für Informatik, Bonn, Germany, July 2002.

Trackless Algorithms. Universität Lübeck, Germany, December 2001. Also given at Sandia National Laboratories, Albuquerque, New Mexico, August 2000.

The 3-Server Problem in the Plane. Max Planck Institut für Informatik, Saarbrücken, Germany, July 1999.

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**Curriculum Vitae X**

Monge Properties: Contemporary Tools for Efficient Algorithms. Universität Osnabrück, Germany, November 1998. Also given at Universität Lübeck, Germany, November 1998.

Trackless Online Algorithms. Universität Paderborn, Germany, November 1998.

Computer Simulations for the Competitive Ratio of Randomized 2-Server Problems. University of Texas of the Permian Basin, Texas, 1997.

Crew Optimization and the Set Partitioning Problem. University of Nevada, Reno, 1994. Also given at the University of California, Irvine, 1993; Universität Osnabrück, Germany, 1993; University of California, Riverside, 1992.

New Developments for Monge-based Algorithms. University of California, Riverside, 1992.

Series-Parallel Linear Programs. Universität Osnabrück, Germany, 1991. Also given at Universität Magdeburg, Germany, 1991.

Complexity Paradigms for Directed Acyclic Graphs. Universität Ulm, Germany, 1989.

The Complexity of Directed Acyclic Graphs. Universität Osnabrück, Germany, 1989. Also given at Technische Universität Graz, Austria, 1989.

Series-Parallelness and Network Complexity. Rheinische Friedrich Wilhelms Universität Bonn, Germany, 1988.

**Funded Research**

NSF, US-Japan planning visit on power management, energy-efficient computing, and smart control for alternative energy, Start Date: 8/1/14 – 7/31/16, \$25,000.

ITR: Online Algorithms and Information Technology, NSF, PI, (Co-PI: Larmore), Start Date: 08/15/03, 48 month, \$300,000.

Genetic Algorithms and Neural Networks, UNLV SITE, PI, June 1999 - April 2000, \$4,510.

On Line Competitive Algorithms, NSF CCR 9821009, Co-PI, (PI: Larmore), July 1999 - June 2003. \$113,871.

Travel Grants (five), University Travel Committee, 1999 - 2012, \$7,750.  
Travel to conferences, mainly in theoretical computer science.

Sandia National Laboratories. Efficient Manipulation and Storage of Geometric Data, 1989, \$10,000.

Boundary and Constructive Solid Modeling Representations in Computer Aided Design, Sandia National Laboratories, 1990. \$10,000.

Greedy Algorithms, Duke University Research Council, 1988. \$2,000.

**Professional Service**

**University**

- Search Committee, Provost, 2011/2012.
- Member Presidential Review Committee, (Committee to reorganize UNLV), 2010.
- Faculty Senator, 1999 – present.
- Executive Committee Member, Faculty Senate, 2003 – 2004.
- Co-Chair (with Fatma Nasoz) of the Graduate College Curriculum Committee, 2008/2009.
- Member, Graduate Students Awards Committee, 2012 – 2014.
- Member, Graduate College Curriculum Committee, 1999 – present.
- Mentor in the Faculty Mentoring Program , 2012 – 2013.
- Treasurer, Nevada Faculty Alliance, 2009 – 2013.
- Graduate College Representative for Geoscience Program Review, 2009.
- Judge, Graduate and Professional Student Association Annual Research Forum, 2005 – 2006.
- Member, University Research Council, 2002 – 2004.
- Member, Faculty Development Leave Committee, Senate Committee, 2003 – 2004.
- Member, Sabbatical Leave Committee, Senate Committee, 2002 – 2004.
- Ethics Committee, Senate Committee, 2001-2002.

**College**

- Steering Committee, Institute for Security Studies, UNLV, grant, Professor Latifi, 2009.
- Member Search Committee for the Director of the School of Computer Science, 2006.
- Member Search Committee for the Director of the School of Computer Science, 2005
- Member Search Committee for the Dean of the College of Engineering, 2002.
- Minority Engineering Program, College of Engineering, Presentations, 2001 – 2013.

### **Department**

- Member, Executive Committee, 2011 – 2013.
- Co-Director (with Shahram Latifi), Center for the Information Technology and Algorithms (CITA), 2004 – present.
- Member, Search Committee, Software Engineering position , 2013.
- Chair, Colloquium Committee, 2008 – present.
- Graduate Council Representative, 1999 – present.
- Chair, Space and Technology Committee, 2005 – 2008.
- Member, Undergraduate Curriculum Committee, 1999 – 2007.
- Member, Graduate Committee, 1999 – 2005.
- Prepared Regent's Accreditation Report for Faculty Senate (with Professor Berghel), 2000.
- Served on 50+ Masters' thesis committees since 1998.
- Graduate Advisor, Computer Science Program, University of Texas at Dallas, 1995 -1998.
- Founder and Faculty Advisor, ACM Student Chapter, Computer Science Program, University of Texas at Dallas, 1995 - 1998.

### **Professional and Learned Societies**

- Publicity Chair, Association for Computing Machinery (ACM) Special Interest Group on Algorithms and Computation Theory (SIGACT), 2002 – 2010. In charge of SIGACT's server.
- Moderator of TheoryNT, – the official list-serve computer science theory, 2002 – present.

### **Conference Chair**

- General Chair, 8th International Symposium on Parallel Architectures, Algorithms and Networks (IS-PAN 05), Las Vegas, December 7 – 9, 2005.
- Conference Chair, 42nd IEEE Annual Symposium on Foundation of Computer Science (FOCS 01), Las Vegas, October 14 – 17, 2001.
- Conference Chair, 30th ACM Symposium on Theory on Computation (STOC 98), Dallas, May 23 – 26, 1998.

Program Committees

- The 12th International Conference on Information Technology (ITNG 2015), Las Vegas, April 13-15, 2015.
- IEEE RIVF 2015, International Conference on Computing and Communication Technologies, CanTho, Vietnam, January 25 – 28, 2015.
- The 8th Annual International Conference on Combinatorial Optimization and Applications (COCOA 14), 2014, Maui, Hawaii, December 19-21.
- IEEE RIVF 2013, International Conference on Computing and Communication Technologies, Hanoi, Vietnam, November 10 – 13, 2013.
- IEEE RIVF 2012, International Conference on Computing and Communication Technologies, February 27 – March 1, 2012, Ho Chi Minh City, Vietnam.
- WAOA 2012 10th Workshop on Approximation and Online Algorithms, Ljubljana, Slovenia.
- 5<sup>th</sup> International Conference on Combinatorial Algorithms and Applications (COCOA 2011), Zhangjiajie, China, August 4 – 7, 2011.
- IEEE-RIVF 2010 International Conference on Computing and Communication Technologies, Hanoi, Vietnam, November 1 – 4, 2010.
- 7th Japan Conference on Computational Geometry and Graphs, Kanazawa, Japan, November 11 – 13, 2009.
- 20th International Symposium on Algorithms and Computation (ISAAC), Honolulu, December 16 –18, 2009.
- IEEE-RIVF 2009 International Conference on Computing and Communication Technologies, Hanoi, Vietnam.
- 19th ACM-SIAM Symposium on Discrete Algorithms (SODA 08), San Francisco, January 20 – 22, 2008.
- 7th International Symposium on Parallel Architectures, Algorithms and Networks, Hong Kong, 2004.
- International Symposium on Information Technology: Coding and Computing, Las Vegas, 2003 and 2004.
- International Conference on Information and Knowledge Engineering (IKE 03), Las Vegas, 2003.

Track Chair

- Track Chair: Green Computing, 12th International Conference on Information Technology : New Generations, Las Vegas, April 13-15, 2015.

## **Wolfgang Bein**

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University of Nevada, Las Vegas

## **Curriculum Vitae XIV**

- Minitrack Co-Chair (with C. Jeffery) “Open Movements: FLOSS, Open Contents, Open Access and Open Communities Secure Cloud Computing”, 43rd, - 48th, Hawaii International Conference on System Sciences, Hawaii, 2010 – 2015.

- Minitrack Co-Chair (with L. Morales) “Algorithmic Challenges in Emerging Applications of Computing”, 41st, 42nd, 43rd Hawaii Intl. Conf. on System Sciences, Hawaii, 2008 – 2010.

### Session Chair:

- 10th Workshop on Approximation and Online Algorithms (WAOA 2012), 2012.

- 19th ACM-SIAM Symposium on Discrete Algorithms (SODA 08), San Francisco (3 sessions), 2008.

- 1st International Symposium on Combinatorics, Algorithms, Probabilistic and Experimental Methodologies (ESCAPE 07), Hangzhou, China, 2007.

- 15th Annual European Symposium on Algorithms (ESA 07), Eilat, Israel, 2007.

- 8th International Symposium on Parallel Architectures, Algorithms & Networks (ISPAN 05), Las Vegas, 2005.

- 7th International Symposium on Parallel Architectures, Algorithms & Networks (ISPAN 04), Hong Kong, 2004.

- International Conference on Mathematics & Engineering Techniques in Medicine & Biological Sciences (METMBS 02), Las Vegas, 2002.

- 6th International Symposium on Parallel Architectures, Algorithms & Networks (ISPAN 02), Taiwan, 2002.

- METMBS 00, Las Vegas; American Society for Engineering Education, Las Vegas, 1999.

### Other Conference Organizing

- Advisory Committee, ISPAN 08, Sidney, Australia., 2008.

- Treasurer, STOC 03, San Diego, 2003.

- Steering Committee, Workshop on Modeling Complex Systems, US Geological Survey, Reno, 2002.

- Registration Chair, ITCC 00, ITCC 01, Las Vegas, 2000 and 2001.

- Treasurer, STOC 00, Portland, Oregon, 2000.

- Treasurer, STOC 95, Las Vegas, Nevada, 1995.

- Conference Referee (recent only): CIAC 2015, SODA 2014, COCOA14, IEEE-RIVF 2013, ALGO 2012, WAOA 2012, IEEE RIVF 2012, SODA 2010, many others earlier.

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**Curriculum Vitae XV**

Journal Referee: Algorithmica; Algorithms; Applied Mathematics Letters; Computation Optimization & Applications; Computers & Mathematics with Applications; Control & Intelligent Systems; Discrete Applied Mathematics; Information Processing Letters; International Journal of Foundations of Computer Science; International Journal of Information Technology; International Journal of Management Science; International Journal of Parallel, Emergent & Distributed Systems; Journal of Algorithms; SIAM Journal on Algebraic & Discrete Methods; Mathematics of Operations Research; Omega; Operations Research; Parallel Processing Letters; ACM Transactions on Computer Systems; IEEE Transactions on Computers; IEEE Transactions on Parallel & Distributed Systems; IEEE Transactions on Reliability; Theoretical Computer Science; Zeitschrift für Operations Research, and others.

**Governmental agencies**

- Served on five National Science Foundation panels, 2003 – present.
- Panelist (Online) Research Grants Council (RGC) of Hong Kong, 2010 – present.

**Public and private organizations**

- Outside member of the Habilitation Committee of Dr. Silja Meyer-Nieberg at University of the Federal Armed Forces., 2012 – present.
- Tenure review for Purdue School of Engineering and Technology, 2008.
- Tenure review for University of St. Thomas, 2004.
- Tenure review for Computer Science/Software Engineering Department, Embry –Riddle Aeronautical University, 2004.

**Service Grants**

- Association Computing Machinery (ACM); Set up the server for the ACM Special Interest Group on Algorithms and Computation Theory (SIGACT); One time payment in 2002; \$5000.