

# Aimo Hinkkanen

Professor, [Department of Mathematics](#)  
[University of Illinois at Urbana-Champaign](#)  
1409 W. Green Street  
Urbana, Illinois 61801-2975

Office: [345 Illini Hall](#); (217) 244-7306; FAX: (217) 333-9576  
e-mail: [aimo@uiuc.edu](mailto:aimo@uiuc.edu)

---



## Area of Specialization

- Complex Analysis
  - Geometry
  - Dynamics
- 

## Research

A [supercomputer project](#) to visualize certain limit and approximation phenomena in complex dynamics; includes animations. Research supported by the National Center for Supercomputing Applications; PI's A.H. and Hartje Kriete.

---

## Teaching

[Spring 2006](#)

---

## [PhD Students](#)

---

## [Selected Publications](#)

[Publications on MathSciNet](#)

[Interdisciplinary Publications](#)

---

## [Photos](#)

---

**Selected Publications of Aimo Hinkkanen:**

1. Uniformly quasimetric groups, *Proc. London Math. Soc.* (3), 51 (1985), 318-338.
  2. The structure of certain quasimetric groups, *Memoirs Amer. Math. Soc.* 83, No. 422 (1990), 1-87.
  3. Abelian and nondiscrete convergence groups on the circle, *Trans. Amer. Math. Soc.* 318 (1990), 87-121.
  4. Univalence criteria and quasiconformal extensions (with J.M. Anderson), *Trans. Amer. Math. Soc.* 324 (1991), 823-842.
  5. A sharp form of Nevanlinna's second fundamental theorem, *Inventiones Math.* 108 (1992), 549-574.
  6. Julia sets of rational functions are uniformly perfect, *Math. Proc. Camb. Phil. Soc.* 113 (1993), 543-559.
  7. Abelian nondiscrete convergence groups in the plane (with G.J. Martin), *Ann. Acad. Sci. Fenn. Series AI* 19 (1994), 205-246.
  8. Quadrilaterals and extremal quasiconformal extensions (with J.M. Anderson), *Comment. Math. Helv.* 70 (1995), 455-474.
  9. The dynamics of semigroups of rational functions I (with G.J. Martin), *Proc. London Math. Soc.* (3) 73 (1996), 358-384.
  10. Solutions of the first and second Painlevé equations are meromorphic (with Ilpo Laine), *Journal d'Analyse Math.* 79 (1999), 345-377.
  11. On a maximum principle in Bergman space, *Journal d'Analyse Math.* 79 (1999), 335-344.
  12. Solutions of modified third Painlevé equation are meromorphic (with Ilpo Laine), *Journal d'Analyse Math.* 85 (2001), 323-337.
  13. Solutions of modified fifth Painlevé equation are meromorphic (with Ilpo Laine), pp. 133-146 in *Papers in Analysis*, Report. Univ. Jyväskylä 83 (2001).
  14. The oscillation of harmonic and quasiregular mappings (with J.M. Anderson), *Math. Z.* 239 (2002), 703-713.
-

## Interdisciplinary Publications of Aimo Hinkkanen:

1. M.Y. Kiang, A.B. Whinston and A. Hinkkanen, An interval propagation method for solving qualitative difference equation systems, pp. 294-303 in *Qualitative Reasoning and Decision Technologies* (ed. by N.P. Carrete and M.G. Singh), International Center for Numerical Methods in Engineering, Barcelona, Spain, 1993.
  2. Sulin Ba, A. Hinkkanen, and A.B. Whinston, Data representation and qualitative optimization: some issues in enterprise modeling, pp. 443-446 in *Proceedings of the Seventh International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems*, Austin, TX, Ed. F. Anger, R. Rodriguez, and M. Ali, May 31-June 3, 1994, Gordon and Breach.
  3. Sulin Ba, A. Hinkkanen, and A.B. Whinston, Digital Library as a Foundation for Decision Support Systems, pp. 170-177 in *Proceedings of the First Annual Conference on the Theory and Practice of Digital Libraries*, College Station, TX, Ed. J. Schnase, J. Leggett, R. Furuta, and T. Metcalfe, June 19-21, 1994.
  4. A. Hinkkanen, K.R. Lang and A.B. Whinston, On the Usage of Qualitative Reasoning as an Approach Towards Enterprise Modelling, *Annals of Operations Research* 55 (1995), 101-137. (Special issue: Data, Expert Knowledge and Decisions, Gaul, W., F.J. Rademacher, M. Schader, and D. Solte, eds.)
  5. M.Y. Kiang, A. Hinkkanen, and A.B. Whinston, Reasoning in Qualitatively Defined Systems Using Interval-Based Difference Equations, *IEEE Transactions on Systems, Man, and Cybernetics* 25, No. 7 (1995), 1110-1120.
  6. A. Hinkkanen, P. Saengcharoenrat, Jan Stallaert, and A.B. Whinston, Very large-scale real-time supply chain problem solving by agent organization strategy, University of Texas at Austin working paper, 1996, 46 pp.
  7. Aimo Hinkkanen, Ravi Kalakota, Porama Saengcharoenrat, Jan Stallaert, and Andrew B. Whinston, Distributed decision support systems for real time supply chain management using agent technologies, pp. 275-291 in *Readings in Electronic Commerce*, ed. by R. Kalakota and A.B. Whinston, Addison-Wesley, Reading, Massachusetts, 1997.
  8. A. Hinkkanen, P. Saengcharoenrat, Jan Stallaert, and A.B. Whinston, Bundle markets and bundle modeling, University of Texas at Austin working paper, 1998, 30 pp.
  9. Aimo Hinkkanen and Karl R. Lang, *Qualitative Reasoning: Theory and Applications*, Chapter 7, pp. 127-153 in *Business Modelling, Multidisciplinary Approaches: Economics, Operational and Information Systems Perspectives*, editors Clyde Holsapple, Varghese Jacob, and H. Raghav Rao, Kluwer Academic Publishers, Boston-Dordrecht-London, 2002.
  10. Aimo Hinkkanen, Karl R. Lang, and Andrew B. Whinston, A set-theoretical foundation of qualitative reasoning and its application to the modeling of economics and business management problems, *Information Systems Frontiers*, special issue on Business Applications of Uncertain Reasoning, Vol. 5, No. 4, Dec. 2003, 379-400.
-