

# CURRICULUM VITAE

## Homeira Pajooesh

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## Educational Background

1. **Ph.D.**, Mathematics, Department of Mathematics, Shahid Beheshti University, Tehran, Iran, 2003. The title of my thesis was "Lattice ordered rings and derivations".
2. **M.Sc.** Mathematics, Department of Mathematics, Isfahan University of Technology, Isfahan, Iran, 1997.
3. **B.Sc.**, Mathematics, Department of Mathematics, Isfahan University of Technology, Isfahan, Iran, 1995.

## Professional Experience

1. **Research Visitor**, Department of Computer Science, Graduate Center, June 2007-August 2007.
2. **Temporary Assistant Professor**, Department of Mathematics, Georgia Southern University, August 2006- May 2007.
3. **Visitor**, Department of Mathematics, City College of CUNY, August 2005- August 2006.
4. **Post-Doc**, Department of computer science, University College Cork, Ireland, November 2003 to September 2005.
5. **Research Visitor**, Department of Computer Science, Birmingham University, Birmingham, U.K. (see <http://www.cs.bham.ac.uk/> ), Oct. 2002-Oct. 2003.

## Research Interests

- Lattice ordered rings, Lattice ordered groups, Lattice theory and Category theory.
- Partial metrizable, topology.
- Pure mathematics related to computer science, especially domain theory, category theory, binary trees.

## Accepted Papers in Journals

1. **Partial Metrics and Metrics with a Goal**, Bukatin, M., Kopperman, R., Matthews, S., Pajoohesh, H., American Mathematical Monthly, 2008.
2. **Convergence for partial metrics in value lattices**, Kopperman, R., Matthews, S., Pajoohesh, H., Topology and its applications, 2008.
3. **Topological and categorical properties of binary trees**, Pajoohesh, H., Applied General Topology, Vol. 9, no.1, 1-14, 2008.
4. **Binary trees equipped with semivaluations**, Pajoohesh, H., Schellekens, M., Quaestiones Mathematicae, Vol. 30, 123-131, 2007.
5. **Positive derivations on lattice ordered rings of Matrices**, Pajoohesh, H., Quaestiones Mathematicae, Vol. 30, 275-284, 2007.
6. **Partial quasi metrics**, Hans-Peter Künzi, H. Pajoohesh, Schellekens, M., Theoretical Computer Science, 365, 237-246, 2006.
7. **On the relation between balance and speed of algorithms**, O'Keeffe, M., Pajoohesh, H., Schellekens, M., Hadronic Journal, Vol. 28, no.5, 531-559, 2005.
8. **Martindale po-rings and derivations on (semi)prime l-rings**, Ebrahimi, M. M., and Pajoohesh, H., Algebras Groups Geom, vol. 22 , no. 1, 109-115, 2005.
9. **Partial metrizable in value quantales**, Kopperman, R., Matthews, S., and Pajoohesh, H., Applied General Topology, vol. 5, no. 1, 115-127, 2004.
10. **Composition of derivations on (semi)prime l-rings**, Ebrahimi, M. Mehdi and Pajoohesh, H. Kyungpook Math Journal. 44, no. 2, 293-297, 2004.
11. **A survey of topological work at CEOL**, Pajoohesh, H., Schellekens, M. Topology Atlas Invited Contributions, Vol. 9, no. 2, 7pp, 2004.
12. **Inner derivations and homo-derivations on l-rings**, Ebrahimi, M. Mehdi and Pajoohesh, H., Acta Math. Hungarica, Vol. 100 (1-2), 157-165, 2003.
13. **Positive derivations on (semi)prime l-rings**, Ebrahimi, M. Mehdi and Pajoohesh, H., Hadronic J., Vol 26 , no. 5, 631-636, 2003.
14. **Strongly regular l-rings and derivations on them**, Ebrahimi, M. Mehdi and Pajoohesh, H., Algebras Groups Geom, J., Vol 20 , no. 4, 451-459, 2003.

## Accepted Papers in Proceedings

1. **Decision trees of algorithms and a semivaluation to measure their distance**, Pajooohesh, H., Schellekens, M. Proceedings of MFC-SIT 2004, to be published by Electronic Notes in Theoretical Computer Science, 161, 175-183, 2006.
2. **Philosophical Issues in computer science**, Kopperman, R., Matthews, S., and Pajooohesh, H. Proceedings of the first Workshop on Philosophy and Informatics WSPI 2004, Cologne, Germany 2004. Gregor Buchel, Bertin Klein, and Thomas Roth-Berghofer (Eds.) German Research Center for Artificial Intelligence ISSN 0946-008X.
3. **Counter Parts of some Ring concepts for  $l$ -Rings**, Ebrahimi, M. Mehdi and Pajooohesh, H, Proceeding of the 13th Algebra Seminar (Urmia, 2001), 105-108, Univ. Urmia, Urmia, 2001.

## Academic research experience

1. **Department of Mathematics City College New York**, April 9 2005 - May 24, 2005. I worked with Professor Ralph Kopperman.
2. **Department of Mathematics Western Kentucky University**, March 18 2005 - April 8 2005. I worked with Professor Tom Richmond.
3. **Department of Mathematics of Cape Town University (South Africa)**, late January 2005 - March 12, 2005. I worked with Professor Hans-Peter Künzi during this period.

## Conference and Seminar Lectures

1. **Convergence for partial metrics in value lattices**, (joint work with Kopperman R., Matthews, S.), Georgia Southern University ,April 21, 2008.
2. **Characterizing comparison based algorithms via category theory and topology**, Graduate Center, October 31, 2007.
3. **Binary trees and the running time of comparison based algorithms**, Medgar Evers College, October 24, 2007.
4. **Generalized metrics into lattice ordered groups**, (joint work with Kopperman R., Richmond T.), at New York Seminar on General Topology and Topological Algebra, Baruch College, New York, October 18, 2007.
5. **Counting Flexagon Pats and Faces: An Algebraic Approach**, (joint work with Anderson, T., McLean B. and Smith, C.), MAA SE conference, March 16 17, 2007.
6. **Composition of comparison based algorithms as an algebraic operation**, AMS meeting, New Orleans, January 5-8, 2007.

7. **Binary trees help us to study comparison bases algorithms and their compositions**, Framingham College, December 13, 2006.
8. **Derivations on lattice ordered rings**, The University of Texas at Tyler, December 11, 2006.
9. **Derivations and the structure of ordered rings**, Georgia Southern University , September 8, 2006.
10. **A class of topologies on abelian lattice ordered groups**, (joint work with Henriksen, M., Kopperman R. and Richmond, T.), 21st Summer Conference on Topology and its Applications.
11. **How the speed of computer algorithms is determined by category theory and topology**, Georgia Southern University , April 28, 2006.
12. **How derivations on a ring help us to understand its properties**, at New York Seminar on General Topology and Topological Algebra, Queens College, CUNY, April 20, 2006.
13. **Partial metrics**, (joint work with Kopperman R., Matthews, S.), AMS meeting, San Antonio, January 12-15, 2006.
14. **Topological and categorical properties of binary trees**, At New York Seminar on General Topology and Topological Algebra, Queens College, CUNY, November 10, 2005.
15. **Completions of Partial Metric Spaces into value quantales**, (joint work with Kopperman R., Matthews, S.), at New York Seminar on General Topology and Topological Algebra, Baruch College, New York, September 16, 2005.
16. **Composition of positive derivations**, ORD05/UMS Conference on Lattice-Ordered Groups and  $f$ -Rings, April 23, 2005.
17. **Completions of Partial Metric Spaces**, (joint work with Kopperman R., Matthews, S.), At New York Seminar on General Topology and Topological Algebra, Baruch College, New York, April 14, 2005.
18. **Partial metrics and metrics with a base point**, (joint work with Kopperman R., Matthews, S.), Western Kentucky University, Bowling Green, Kentucky, April 5, 2005.
19. **Partial metrics and metrics with a viewpoint**, (joint work with Kopperman R., Matthews, S.), Invited Special Session talk, 1004th AMS meeting, Western Kentucky University Bowling Green, Kentucky, March 19, 2005.
20. **Binary trees and semivaluations**, (joint work with Schellekens. M.), University of Western Cape, South Africa, March 9, 2005.

21. **Natural topologies and partial metrics for lattice ordered abelian groups**, (joint work with Henriksen, M., Kopperman R.), University of Cape Town, March 1, 2005.
22. **Binary trees equipped with semivaluations**, (joint work with M. Schellekens), MFCSIT (Mathematical Foundations of Computer Science and Information Technology) 2004., July 22-23, 2004.
23. **Partial metrics and their completion into value lattices**, (joint work with Kopperman R., Matthews, S.), Discrete vs. Continuous Computational Models in Dagstuhl in Germany August 2004.
24. **Lattice of binary trees and topologies on binary trees**, (joint work with M. Schellekens), 8th Galway Colloquim., June 21-22, 2004.
25. **Lattice of binary trees**, (joint work with M. Schellekens), International Symposium on Domain Theory, Xi'an, China, May 10-14 2004.
26. **Universal Partial Metrizable**, (joint work with R. Kopperman, S. Matthews), 55th British Mathematical Colloquium., Birmingham 2003.
27. **Universal p-Metrizability**, (joint work with R. Kopperman, S. Matthews), Topology Seminar, Birmingham University, U.K., 2003
28. **Inner and Homo-Derivations on  $l$ -rings**, (joint work with M. Mehdi Ebrahimi), International Conference on Applicable General Topology, Hacettepe Univ., Turkey, 2001.
29. **Counter Parts of Some Ring Concepts for  $l$ -Rings**, (joint work with M. Mehdi Ebrahimi), 13th Algebra Seminar, Urmia Univ., Urmia, Iran, 2001.