

## Ben-Moshe Boaz - Curriculum Vitae

### Personal Details

**Date of birth :** April 2, 1971  
**Place of birth :** Israel  
**Email:** benmo@yosh.ac.il  
**URL:** <http://www.yosh.ac.il/dom/bbm>  
**Work address:** School of Computer Science  
College of Judea & Samaria, Ariel, 44837.  
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### Education

**2001 - 2004:** PhD. Department of Computer Science  
Ben-Gurion University of the Negev  
Beer-Sheva, Israel

**Thesis title:** *Geometric Facility Location Optimization*

**Advisor:** *Prof. Matthew J. Katz*

**Graduated with distinction**

**1998 - 2000:** M.Sc. Department of Computer Science  
Ben-Gurion University of the Negev  
Beer-Sheva, Israel

**Thesis title:** *Computing the  $L_1$  Diameter of a Set of Points  
in the Presence of Rectangular Obstacle and related problems*

**Advisor:** *Prof. Matthew J. Katz*

**Graduated with distinction**

**1994 - 1997:** B.Sc. Mathematics and Computer Science,  
Ben-Gurion University of the Negev,  
Beer-Sheva, Israel

**Graduated with distinction**

## Employment

**Present** : Faculty member at the School of Computer Science College of Judea & Samaria Ariel, 44837.

**2004 - 2005** : Postdoctoral at the School of Computing Science - SFU.

[2004-2005] Research group member & team leader: MITACS projects.

**2001 - 2004** : Instructor at Ben-Gurion University of the Negev.

[2001-2004] Introduction to Computer Science in java.

[2001-2004] Research Group member: LSRT; Large Scale Rural Telephony - locating fixed wireless networks.

[2002-2003] Computational Geometry project course: Facility Location.

**1998 - 2000** : Teaching Assistant

[1999,2000] Introduction to Computer Science in java.

[1998,1999] Principles of Programming Languages.

**1997 - 1998** : Software Engineer (Orbotech, Yavne)

[1997,1998] CAM project - Algorithms team.

## Research Experience and Collaboration

**2004 - 2005** : Postdoctoral researcher position in Simon Fraser University.

**2001 - 2004** : Member of the LRST MAGNET Consortium.

**March 2001** : Presentation, 17th European Workshop on Computational Geometry, Berlin.

**June 2001** : Presentation, 17th ACM Symp. on Computational Geometry, Boston.

**June 2002** : Presentation, 18th ACM Symp. on Computational Geometry, Barcelona.

**March 2003** : Presentation, 19th European Workshop on Computational Geometry, Bonn.

**June 2004** : Presentation, 20th ACM Symp. on Computational Geometry, New York.

**Jan 2005** : Presentation, 16th annual ACM-SIAM symposium on Discrete algorithms, Vancouver.

## Honors and Awards

- Vatat (Israeli high-education planning and budgeting committee) Excellence in HI-Tech Research Fellowship.
- Ben-Gurion University of the Negev: Excellence Research Fellowship - for Masters research.
- Intel prize: Excellence Research Fellowship - for PhD research.
- PIMS Postdoctoral Fellowship (2004).

## References

- Prof. Matya Katz, matya@cs.bgu.ac.il
- Prof. Joseph S.B. Mitchell, jsbm@ams.stonybrook.edu
- Prof. Binay Bhattacharya, binay@cs.sfu.ca
- Prof. Michael Codish, mcodish@cs.bgu.ac.il (for teaching skills only)

## Research Statement

I am interested in both theoretical and applied aspects of Computational Geometry and Facility Location Optimization, including: Approximating Radio Maps, Locating Wireless Back-bone, Frequency Allocation, Visibility Graphs, Terrain Simplification, Allocation Problems, Vehicle Routing Problems, and GIS expert systems. I cooperate with the following research groups:

**Computational Geometry**, Prof. Matya Katz (BGU).

**Terrain Modeling and Compressing**, Dr. Arik Shamir (IDC).

**Wireless Communication (WiMax)**, Dr. Yehuda Ben Shimol (BGU).

**Human Vision**, Dr. Michael Vagner (YOSH).

**Indoor Wireless Communication**, Prof. Yossi Pinhasi (YOSH, ISRC).

## Publications

### Journal publications

- B. Ben-Moshe, M.J. Katz and M. Segal, Obnoxious facility location: complete service with minimal harm, *International J. of Computational Geometry and Applications* 10 (2000), 581–592.
- B. Ben-Moshe, P. Carmi and M.J. Katz, Computing all large sums-of-pairs in  $\mathcal{R}^n$  and the discrete planar two-watchtower problem, *Inf. Proc. Letters*, 89 (2004), 137–139.
- B. Ben-Moshe, M.J. Katz, J.S.B. Mitchell and Y. Nir, Visibility preserving terrain simplification - An experimental study, *Comp. Geom. Theory and Appl.*, 28 (2004), 175-190.
- B. Ben-Moshe, P. Carmi and M.J. Katz, Approximating the Visible Region of a Point on a Terrain, *GeoInformatica* 2006, to appear

### Accepted for Journal

- B. Ben-Moshe, M.J. Katz and J.S.B. Mitchell, A Constant-Factor Approximation Algorithm for Optimal Terrain Guarding, *SIAM Journal on Computing*.
- B. Ben-Moshe, B. Bhattacharya, Qiaosheng Shi, A. Tamir Efficient Algorithms for Center Problems in Cactus Graphs, *Theoretical Computer Science*.
- B. Ben-Moshe, Y. Ben-Shimol, Y. Ben-Yehzekel and A. Dvir, M. Segal, An Automated Wireless Fixed-Access Networks Antenna Positioning Algorithm, *Journal of Heuristics*.

### currently reviewed for Journal

- B. Ben-Moshe, B. Bhattacharya and Qiaosheng Shi, Computing the Widest Empty Boomerang.

## Conference papers

- B. Ben-Moshe, M.J. Katz and J.S.B. Mitchell, Approximating the Diameter of a Set of Points in the Presence of Rectangular Obstacles, Proc. 17th European Workshop. on Computational Geometry, 2001, 154-157.
- B. Ben-Moshe, M.J. Katz and J.S.B. Mitchell, Farthest neighbors and center points in the presence of rectangular obstacles, Proc. 17th ACM Symp. on Computational Geometry, 2001, 164-171.
- B. Ben-Moshe, O. Hall-Holt, M.J. Katz and J.S.B. Mitchell, Computing the visibility graph of points within a polygon, Proc. 20th ACM Symp. on Computational Geometry, 2004, 27-35.
- B. Ben-Moshe, M.J. Katz and J.S.B. Mitchell, A Constant-Factor Approximation Algorithm for Optimal Terrain Guarding, Proc. of the 16th annual ACM-SIAM symposium on Discrete algorithms, 2005
- B. Ben-Moshe, B. Bhattacharya and Qiaosheng Shi, Farthest Neighbor Voronoi Diagram in the Presence of Rectangular Obstacles, Proc. of the 17th Canadian Conference on Computational Geometry, 2005,
- B. Ben-Moshe, B. Bhattacharya and Qiaosheng Shi, Efficient algorithms for the weighted 2-center problem in a cactus graph, Proc. of the 16th International Symposium on Algorithms and Computation (ISAAC), 2005, 693-703.
- B. Ben-Moshe, Y. Ben-Shimol, Y. Ben-Yehezkel and A. Dvir, M. Segal, An Automated Wireless Fixed-Access Networks Antenna Positioning Algorithm, accepted to IEEE Consumer Communications and Networking Conference, 2006
- B. Ben-Moshe, B. K. Bhattacharya, Qiaosheng Shi, An Optimal Algorithm for the Continuous/Discrete Weighted 2-Center Problem in Trees, LATIN 2006, 166-177
- M. Ester, Rong Ge, B. J. Gao, Zengjian Hu, B. Ben-Moshe, Joint Cluster Analysis of Attribute Data and Relationship Data: the Connected k-Center Problem, Proc. 6th SIAM Conference on Data Mining (SDM), Bethesda, MD, USA, April 20 - 22, 2006.