

Anastasia Kurdia

CONTACT INFORMATION Department of Computer Science akurdia@smith.edu
Smith College utdallas.edu/~akurdia
Northampton, MA 01060 U.S. permanent resident

RESEARCH INTERESTS Algorithms, computational geometry, rigidity theory, parallel algorithms, algorithmic problems arising in biology and medicine, medical applications.

OTHER INTERESTS Computer science education (teaching, recruitment, outreach), advancement of women in technical fields.

EDUCATION Ph.D., Computer Science, May 2010
Under supervision of Dr. Ovidiu Daescu
M.S. in CS coursework completed in 2007
University of Texas at Dallas, Dallas, TX

Diploma in Applied Mathematics and Computer Science, 2004
Production automation track
Department of Applied Mathematics and Computer Science
Belarusian State University (BSU), Minsk, Belarus

Diploma in Economical Cybernetics (second major), 2004
Department of Business and Information Technology
Belarusian State University, Minsk, Belarus

WORK EXPERIENCE *Postdoctoral research assistant* **Since 2010**
Department of Computer Science, Smith College, Northampton, MA. Working in LinK-aGe lab under supervision of Dr. Ileana Streinu.

Instructor **Fall 2009**
Fellow of CHAMPS, NSF-funded program. Teaching after-school computer science class in Bowman Middle School, Plano, TX.

Research assistant **Jan 2009 - Aug 2009**
Department of Computer Science at UTD.

Teaching assistant **Jan 2006 - Dec 2008**
Department of Computer Science at UTD.
Distinguished Teaching Assistant of the Year award
CS 3345 Data structures and algorithm analysis
CS 3354 Software engineering
CS 4348 Operating systems concepts
CS 4349 Advanced algorithm design and analysis
CS 4V95/5V81 Game programming
CS 5343 Algorithm analysis and data structures
CS 6352 Performance of computer systems and networks
CS 6363 Design and analysis of computer algorithms

Webmaster **Fall 2005**
UTD Mercury, the student's newspaper.

Software developer **2003 - 2005**
International Business Alliance (IBA), IBM's business partner in Belarus. Analyzed, designed, programmed, tested and managed Lotus Notes R6 databases; supervised 2 junior employees, handled IBA's sensitive data and conducted direct interactions with customers. Brainbench certified in Lotus Domino R5 Programming (2004). IBM certified Lotus Domino/Notes R6 Associate Developer (2005).

Lab assistant **2002 - 2003**
Division of Mathematical Physics at BSU.

Teaching assistant **1999 - 2002**
Center of Information Technology at BSU.
Designed interactive algebra and geometry course materials for BSU's high school outreach program using Mathematica.

JOURNAL ARTICLES Ovidiu Daescu, Anastasia Kurdia. *Towards an optimal algorithm for recognizing Laman graphs*. Journal of Graph Algorithms and Applications, vol. 13, no. 2, pp. 219-232, 2009.

Steven R. Goodman, Anastasia Kurdia, Larry Ammann, David Kakhniashvili, Ovidiu Daescu. *The Human Red Blood Cell Proteome and Interactome (review article)*. Experimental Biology and Medicine, vol. 232, 11, pp. 1391-1408, 2007.

Yam Ki Cheung, Ovidiu Daescu, Anastasia Kurdia. *Modeling 1-link shortest weighted path as a sum of linear fractionals*. Submitted to Optimization Letters.

Ovidiu Daescu, Anastasia Kurdia. *Polygonal Chain Simplification with Small Angle Constraints*. Submitted to Journal of Discrete Algorithms.

CONFERENCE
PUBLICATIONS

Ovidiu Daescu, Anastasia Kurdia, Marko Zivanic. *Voronoi distance metrics for human red-blood cell interactome*. International Symposium on Bioinformatics Research and Applications (ISBRA), 2010.

Steven Bitner, Yam Ki Cheung, Atlas F. Cook, Ovidiu Daescu, Anastasia Kurdia, Carola Wenk. *Visiting a Sequence of Points with a Bevel-Tip Needle*. Latin American Theoretical Informatics Symposium (LATIN), 2010, pages 492-502.

Ovidiu Daescu, Anastasia Kurdia. *Polygonal Chain Simplification for Flight Simulation Systems*. Proceedings of the Military Modeling and Simulation Symposium, 2009.

Ovidiu Daescu, Anastasia Kurdia. *Towards an optimal algorithm for recognizing Laman graphs. Best Paper Award nomination*. Proceedings of the 42th Hawaiian International Conference on System Sciences, 2009.

Ovidiu Daescu, Anastasia Kurdia. *New Results on Polygonal Chain Simplification with Small Angle Constraints*. Abstract published in Proceedings of the 18th Annual Fall Workshop on Computational Geometry, 2008, pages 8-9.

Ovidiu Daescu, Anastasia Kurdia. *Polygonal Chain Simplification with Small Angle Constraints*. Proceedings of the 20th Canadian Conference on Computational Geometry, 2008, pages 191-194.

Yam Ki Cheung, Ovidiu Daescu, Anastasia Kurdia. *A New Modeling for Finding Optimal Weighted Distances*. BIOTECHNO '08: Proceedings of the 2008 International Conference on Biocomputation, Bioinformatics, and Biomedical Technologies, 2008, pages 41-46.

Anastasia Kurdia, Ovidiu Daescu, Larry Ammann, David Kakhniashvili, Steven R. Goodman. *Centrality Measures for the Human Red Blood Cell Interactome*. Proceedings of Engineering in Medicine and Biology Workshop, 2007 IEEE Dallas, 2007, pages 98-101.

POSTERS/
PRESENTATIONS

Steven Bitner, Ovidiu Daescu, Anastasia Kurdia *Discrete 2-center problem in R^3* (poster). 20th Annual Fall Workshop on Computational Geometry, SUNY Stony Brook, Oct. 30, 2010.

Ovidiu Daescu, Anastasia Kurdia. *Classic computational geometry problems in multi-core and multipass models of computation* (poster). **Honorary mention**. 45th Annual Conference of The Association for Computer Educators in Texas (ACET), Oct. 9, 2009.

Ovidiu Daescu, Anastasia Kurdia. *Path Simplification for Airplane Routing* (poster and demo). Graduate Research Day, UT Dallas, Dec. 9, 2008.

Anastasia Kurdia (joint work with Ovidiu Daescu). *Aircraft Routing, Flexing Molecules and Other Exciting Algorithmic Problems* (lecture). Engineering and Computers Science Honors Students Society Meeting, UT Dallas, Nov. 9, 2008.

Ovidiu Daescu, Anastasia Kurdia. *New Results on Polygonal Chain Simplification with Small Angle Constraints* (presentation). 18th Annual Fall Workshop on Computational Geometry, Rensselaer Polytechnic Institute, Oct. 31, 2008.

Ovidiu Daescu, Anastasia Kurdia. *CeMeas: A Software for Efficient Computation of Some Centrality Measures* (poster). Biotechnology and Bioinformatics Symposium 2008, University of Texas at Arlington, Oct. 17, 2008.

Ovidiu Daescu, Anastasia Kurdia. *Polygonal Chain Simplification with Small Angle Constraints* (presentation). 20th Canadian Conference on Computational Geometry, McGill University, Aug. 15, 2008.

Anastasia Kurdia, Ovidiu Daescu, Larry Ammann, David Kakhniashvili, Steven R. Goodman. *Centrality Measures for the Human Red Blood Cell Interactome* (poster). IEEE Engineering in Medicine and Biology Workshop, UT Dallas, Nov. 12, 2007.

Ovidiu Daescu, Anastasia Kurdia. *Towards an optimal algorithm for recognizing Laman graphs* (presentation). 17th Annual Fall Workshop on Computational Geometry, IBM T.J. Watson Research Center, Nov. 10, 2007.

VOLUNTEERING/
SERVICE

Program committee member for International Conference on Combinatorial Optimization and Applications (COCOA) 2010.

Reviewer for Involve, The Journal of Mathematics, 2010.

Reviewer for International Conference on Algorithmic Aspects in Information and Management (AAIM) 2010.

Grad School Prospectus, UT Dallas, Oct. 27, 2009.

Reviewer for International Symposium on Voronoi Diagrams (ISVD) 2009 and for the Special Issue of Algorithmica dedicated to Algorithms, Combinatorics and Geometry (ACG).

Introduce a Girl to Engineering Day, UT Dallas, Feb. 19, 2009.

Dallas High School Math Competition, UT Dallas, May 29, 2006.

ETC Best Practices Conference: Recruiting and Retaining Engineering and Computer Science Students, Southern Methodist University, Jan. 10-11, 2006.