June 29, 2016


# Dianna Xu

Professor and Chair
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## Education

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| 2002 | Ph.D. | Computer and Information Science | University of Pennsylvania, Philadelphia, PA |
| 1998 | M.S.E. | Computer and Information Science | University of Pennsylvania, Philadelphia, PA |
| 1996 | B.A. | Computer Science | Smith College, Northampton, MA |

## Appointments

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| 2016 – | Professor | Computer Science, Bryn Mawr College |
| 2010 – | Associate Professor | Computer Science, Bryn Mawr College |
| 2004 – 2010 | Assistant Professor | Computer Science, Bryn Mawr College |
| May 2003 – August 2003 | Post-Doctoral Researcher | GRASP Lab, University of Pennsylvania |
| 2002 – 2004 | Lecturer | Computer Science, University of Pennsylvania |

## Research Interests

Curves and Surfaces Fitting, Mesh Generation and Optimization, Computational Geometry and Computer Science Education. I study applied problems in Computer Graphics, Vision and Imaging, with methods strongly rooted in geometric analysis and algorithms. I am also interested in geometric and topological methods in data analysis and visualization. In addition, I am heavily involved in rethinking the Computer Science curriculum to attract and retain women and minorities in the field.

## Recent Grants and Professional Activities

1. NSF CCF-1422012, PI: *Quadrilateral Surface Meshes with Provable Guarantees*, 2014-2017.
2. NSF DUE-1323463 (TUES II), PI: *CS1: Creative Computation in the Context of Art and Visual Media*, 2013-2016.
3. NSF CCF-0939370, Faculty Associate: *Center for Science of Information*, 2010-2015 (Dr. Wojciech Szpankowski, Purdue University, PI).
4. NSF DUE-0942626 (CCLI-I), PI: *A Visual portfolio-based Approach to CS1 Using Processing*, 2010-2012.
5. Committee Member, AP Computer Science A Development Committee, 2015-2017
6. Faculty Director, Clare Boothe Luce Undergraduate Scholarship Program for Women in Computer Science at Bryn Mawr College, 2012-2017.
7. Program Committee Member, Grace Hopper Conference, 2015.
8. Program Commitee Member, 27th Annual Symposium on Computational Geometry (SoCG), 2011.
9. Program Commitee Member, Workshop on Algorithmic Foundation of Robotics, 2008.

## Recent Publications

### Books

1. I. Greenberg, D. Xu and D. Kumar (2013). *Processing: Creative Coding and Generative Art in Processing 2.* friends of ED (Apress), a subsidiary of Springer Science+Business Media, 2013.

2. J. Gallier and D. Xu (2013). *A Guide to the Classification Theorem for Compact Surfaces.* Geometry and Computing Series, Springer-Verlag Berlin Heidelberg, 2013.

### Journals

1. J. Gallier, D. Xu and M. Siqueira (2012). Parametric Pseudo-Manifolds. *Differential Geometry and its Applications*, 30(6):702-736, 2012.

2. F.B. Atalay, R. Ramaswami and D. Xu (2012). Quadrilateral Meshes with Provable Angle Bounds. *Engineering with Computers*, 28(1):31-56, 2012.

3. M. Siqueira, D. Xu, J. Gallier, L. Nonato, D. Morera and L. Velho (2009). A New Construction of Smooth Surfaces from Triangle Meshes Using Parametric Pseudo-manifolds. *Computers and Graphics*, 33(3):331-340, 2009.

### Conferences

1. F.B. Atalay, S. Friedler and D. Xu (to appear). Convex Hull for Probabilistic Points. *29th Conference on Graphics, Patterns and Images (SIBGRAPI'16),* October 4-7, 2016, São José dos Campos, Brazil.

2. D. Xu, I. Greenberg, D. Kumar and U. Wolz (2016). Creative Computation for CS1 and K9-12. *Envisioning the Future of Undergraduates STEM Education: Research and Practice Symposium (AAAS EnFuse),* April 27-29, 2016, Washington, DC.

3. D. Xu, A. Cadle, D. Thompson, Ursula Wolz, Ira Greenberg and Deepak Kumar (2016). Creative Computation in High School. *47th ACM Technical Symposium on Computer Science Education (SIGCSE'16),* March 2-5, 2016, Memphis, TN.

4. I. Greenberg, D. Kumar and D. Xu (2012). Creative Coding and Visual Portfolios for CS1. *43rd ACM Technical Symposium on Computer Science Education (SIGCSE'12),* February 29 - March 3, 2012, Raleigh, NC.

5. M. Siqueira, D. Xu, J. Gallier, L. Nonato, D. Morera and L. Velho (2009) A New Construction of Smooth Surfaces from Triangle Meshes Using Parametric Pseudo-manifolds. *IEEE International Conference on Shape Modeling and Applications (SMI'09),* June 26 - June 28, 2009, Beijing, China.

6. S. Hine, F. B. Atalay, D. Xu and R. Ramaswami (2009). Quadrilateral Meshes with Bounded Minimum Angle. (Video and short paper) *25th Annual ACM Symposium on Computational Geometry (SoCG'09),* June 8 - 10, 2009, Aarhus, Denmark.

7. F. B. Atalay, R. Ramaswami and D. Xu (2008). Quadrilateral Meshes with Bounded Minimum Angle. *17th International Meshing Roundtable (IMR'08),* October 12 - 15, 2008, Pittsburgh, PA.

8. D. Xu, D. Blank and D. Kumar (2008). Games, Robots, and Robot Games: Complementary Contexts for Introductory Computing Education. *Microsoft Academic Days Conference on Game Development in Computer Science Education (GDCSE'08),* February 28 - March 3, 2008, Miami, FL.

## Collaborators:

Betul Atalay (St. Joseph's University), Sorelle Friedler (Haverford College), Jean Gallier (University of Pennsylvania), Ira Greenberg (Southern Methodist University), Deepak Kumar (Bryn Mawr College), Suneeta Ramaswami (Rutgers University at Camden), Marcelo Siqueira (Universidade Federal do Rio Grande do Norte) Ursula Wolz (RiverSound Solutions)