

## LAURA G. TATEOSIAN

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Postdoctoral Researcher  
Center for Earth Observation  
North Carolina State University

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### EDUCATION

Ph.D. in Computer Science, North Carolina State University, 2006  
Thesis: Investigating aesthetic visualizations: Propose new visualization techniques which vary aesthetic properties to engage viewers.

GPA: 4.0

M.S. in Computer Science, North Carolina State University, 2002

GPA: 4.0

M.S. in Mathematics, University of Oklahoma, 1997

GPA: 4.0

B.A. in Mathematics, Towson University, 1992

GPA: 3.5

### RESEARCH INTERESTS

Computer graphics, visualization, nonphotorealistic rendering, human visual perception, geospatial sciences, human-computer interaction, computational geometry

### PUBLICATIONS

#### Refereed Journal Article

Healey, C. G., Enns, J. T., Tateosian, L. G., and Remple, M. "Perceptually-Based Brush Strokes for Nonphotorealistic Visualization." *ACM Transactions on Graphics* 23, 1, 6496, 2004.

#### Refereed Conference Articles

Tateosian, L. G., Healey, C. G., and Enns, J. T. "Engaging Viewers Through Nonphotorealistic Visualizations." *In Proceedings of the 5th international Symposium on Non-Photorealistic Animation and Rendering* (San Diego, California, August 04 - 05, 2007). NPAR '07. ACM, New York, NY, 93-102.

Tateosian, L. G., Dennis, B. M., and Healey, C.G. "Stevens Dot Patterns for 2D Flow Visualization." *In Third International Symposium on Applied Perception in Graphics and Visualization*, (Boston, Massachusetts, July 28 - 29, 2006). APGV '06, vol. 153. ACM Press, New York, NY, 93-100.

Dennis, B. M., Kocherlakota, S. M., Sawant, A. P., Tateosian, L. G., and Healey, C. G. "Designing a Visualization Framework for Multidimensional Data." *IEEE Computer Graphics & Applications (Visualization Viewpoints)*, 25, 6, 10-15, 2005.

## Other Publications

Tateosian, Laura G. "Investigating Aesthetic Visualizations." Doctoral Dissertation, Department of Computer Science, North Carolina State University, 2006

Tateosian, L. G. and Healey, C. G. "NPR: Art Enhancing Computer Graphics." Technical Report TR-2004-17, Department of Computer Science, North Carolina State University, 2004

Tateosian, Laura G. "Non-photorealistic visualization of multidimensional datasets." Master's Thesis, Department of Computer Science, North Carolina State University, 2002

## Professional Meeting Presentation

Tateosian, L. G., Healey, C. G., and Enns, J. T. "Engaging Viewers Through Nonphotorealistic Visualizations." Paper presented at the 5th international Symposium on Non-Photorealistic Animation and Rendering co-located with SIGGRAPH, San Diego, California, August 2007.

## TEACHING EXPERIENCE

### Geographic Information Science Instructor

2007-present

*NR 536 Introduction to VB for GIS*

*NR 533 Application Issues In Geographic Information Systems*

Developing and teaching graduate level programming and database concepts for project-oriented geospatial science course work. Student projects design spatial natural resources databases, automate data preprocessing and spatial analysis, and visualize the data in web-based mapping applications. These courses are an important component of an innovative GIS graduate curriculum being developed at NCSU.

Center for Earth Observation  
North Carolina State University, NC

### Mathematics Instructor

Spring 1999 - Spring 2000

*MAT 108 College Algebra*

*MAT 100 Introductory Algebra*

Full-time faculty member for three semesters. Taught four sections (~120 students) each semester. Effectively communicated with students and peers. Composed and presented lessons. Created and marked homework, quizzes, and exams. Actively participated in conferences and faculty meetings.

Department of Math and Computer Science  
Shippensburg University, PA

Summer 1999, Summer 2000

*MAT 60 Algebra*

Basic math program for at risk students. Prepared daily lessons, homework, and exams. Graded homework and exams.

ACT 101 Program  
Shippensburg University, PA

Fall 1999

*Elementary skills to Calculus*

Tutored one to three students concurrently in mathematics skills ranging from grade school level to Calculus.

Sylvan Learning Center  
York, PA

1997 - 1998

*MATH 1414 College Algebra*

Central Texas College at Pope AFB  
Fayetteville, NC

Taught small sections of College Algebra for satellite courses offered at Pope AFB. Composed lesson plans and exams. Led class discussions, created and graded homework and exams.

1997 - 1998 Fayetteville Technical Community College  
*MAT 60 Essential Mathematics* Fayetteville, NC

*MAT 90 Intermediate Algebra*

Taught basic algebra. Created lesson plans and exams and led class discussions. Created and graded homework and exams. Consulted with students during office hours.

1992 - 1995 Basic Skills Education Program  
*Applied Mathematics* Schweinfurt, GE

Taught US Army soldiers basic mathematics skills in preparation for General Technical exams that influence promotion rate.

## Teaching Assistant

Fall 2006 Department of Computer Science  
*CSC 554 Human Computer Interaction* North Carolina State University  
Graded homework and paper reviews. Held office hours to meet with students.

Fall 2004 Department of Computer Science  
*CSC 431 File Organization and Processing* North Carolina State University  
Graded exams and projects in C++ on Unix workstations. Held office hours to meet with students.

Spring 2002 Department of Computer Science  
*CSC 462/562 Computer Graphics* North Carolina State University  
Graded exams and C++ with OpenGL visualization projects. Held office hours to meet with students.

Fall 2000 Department of Computer Science  
*CSC 565 Graph Theory* North Carolina State University  
Graded homework (proofs and counterexamples) and exams. Held office hours to meet with students.

1995 - 1997 Department of Mathematics  
*MATH 1823 Calculus and Analytic Geometry I* University of Oklahoma  
*MATH 1473 Math for Critical Thinking*  
Taught lab sections and graded homework with for Calculus and Analytic Geometry I and Math for Critical Thinking, a logic and probability based mathematics course.

## Courses Taught

MAT 108 College Algebra

MAT 100 Introductory Algebra

MATH 1473 Math for Critical Thinking

MATH 1823 Calculus and Analytic Geometry I (teaching assistant)

CSC/MA 565 Graph Theory (teaching assistant)

CSC 462/562 Computer Graphics (teaching assistant)

CSC 431 File Processing and Organization (teaching assistant)

CSC554 Human Computer Interaction (teaching assistant)

NR 533 Application Issues In Geographic Information Systems

NR 536 Introduction to Visual Basic for GIS



Improved data visualization by adding features to display more dimensions simultaneously and decreasing runtime. Mapped graphical features to data attributes to visualize large datasets.

Spring 1992

**Math Lab Project**

**Pascal**

A joint project between Towson University Mathematics Department and BD. Used math models to optimize production at Becton Dickinson, a medical technology company.

## PROFESSIONAL DEVELOPMENT

NC State New Faculty Orientation Workshop on Teaching and Research, August 2007

## PROFESSIONAL AFFILIATION

ACM Siggraph Member 2007

IEEE Student Member 2005

## PROFESSIONAL SERVICE

Reviewer, Eurographics/IEEE symposium on Visualization 2008 and 2009

Reviewer, Computer/Human Interaction 2007

Computer Science Graduate Student Library Representative 2004 - 2007

## COMMUNITY ACTIVITIES

Kramden Institute Geek-A-Thon volunteer (2007,2008): A nonprofit organization which repairs and refurbishes donated computers to give to school children.

Founding Member of NCSU's Women in Computer Science (2003): A student and faculty organization created to provide networking and mentoring opportunities for women and people interested in diversity in technology fields.

## REFERENCES

Dr. Hugh Devine  
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Department of Computer Science  
2266 Engineering Building II  
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