

# Curriculum Vitae

## Beyza Çalışkan Aslan

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### EDUCATION

- **Ph. D** in Applied Mathematics, University of Florida, August 2007  
Advisor: Professor William W. Hager  
Dissertation Topic: *Continuous approach to the lightning discharge*
- **M. S** in Applied Mathematics, University of Florida, May 2003
- **B. S** in Mathematics, Middle East Technical University, Ankara, Turkey, June 1999

### EMPLOYEMENT HISTORY

- **Assistant Professor**, August 2008 - current  
Department of Mathematics & Statistics, University of North Florida, Jacksonville, FL
- **Assistant Research Scientist**, May 2009 - current  
Department of Mathematics, University of Florida, Gainesville, FL
- **Visiting Assistant Professor**, January 2008-August 2008  
Department of Mathematics, University of Alabama at Birmingham, Birmingham, AL
- **Postdoctoral Research Associate**, funded by NSF, August 2007-December 2007  
Department of Mathematics, University of Florida, Gainesville, USA
- **Research Assistant**, May 2005-August 2005, May 2007-August 2007  
Department of Mathematics, University of Florida, Gainesville, USA
- **Teaching Assistant**, August 2001-August 2007  
Department of Mathematics, University of Florida, Gainesville, USA
- **Teaching Assistant**, January 2000-June 2000  
Department of Mathematics, Middle East Technical University, Ankara, Turkey

### RESEARCH INTERESTS

- Mathematical Modeling, Partial Differential Equations, Numerical Analysis

## PUBLICATIONS

- *Analysis of 24 August 2007 Storm over Langmuir Laboratory, New Mexico*, Beyza C. Aslan and William W. Hager, in preparation.
- *Three Dimensional Charge Structure of a Mountain Thunderstorm*, William Hager, Beyza Caliskan Aslan, Richard Sonnenfeld, Timothy Crum, John Battles, Michael Holborn, and Ruth Ron, *J. Geophys. Res.*, accepted, 6 January 2010.
- *The change in electric potential due to lightning*, William W. Hager and Beyza Caliskan Aslan, *M2AN Math. Model. Numer. Anal.*, (ESAIM: M2AN), 42 (2008), 887-901.
- *A generalized eigenproblem for the Laplacian which arises in lightning*, Beyza Caliskan Aslan, William W. Hager, and Shari Moskow, *J. Math. Anal. Appl.* 341, (2008), 1028–1041, doi:10.1016/j.jmaa.2007.11.007.
- *Analysis of charge transport during lightning using balloon borne electric field sensors and LMA*, William W. Hager, Richard G. Sonnenfeld, Beyza Caliskan Aslan, Gaopeng Lu, William P. Winn, and William L. Boeck, (2007), *J. Geophys. Res.*, 112, D18204, doi:10.1029/2006JD008187.
- *Continuous approach to the lightning discharge*, Beyza Caliskan Aslan, Ph.D Thesis, 2007
- Interviewed and contributed to SIAM News (Oct., 2004), monthly newsletter published by SIAM (Society of Industrial and Applied Mathematics), articles concerning SIAM Gators Student Workshop:
  - \* *By Students for Students: SIAM Gators Welcome Chapters Nationwide to Florida Conference*
  - \* *Accolades for an Accomplished Community*

## PRESENTATIONS and PROFESSIONAL ACTIVITIES

- *Charge Retrieval Analysis for Lightning Flashes in a Mountain Thunderstorm*, SIAM Annual Meeting, Jul. 13-16, 2010, Pittsburgh, PA (talk), upcoming.
- *The change in electric potential due to lightning*, Joint Mathematics Meeting, Jan. 13-16, 2010, San Francisco, CA (talk).
- *Analysis of interesting flashes during a thunderstorm near Langmuir Laboratory on 24 August 2007*, AGU Fall Meeting, Dec. 14-18, 2009, San Francisco, CA (poster presentation).

- *Three Dimensional Current Generator Structure of a Mountain Thunderstorm*, AMS Southeastern Sectional Meeting, Oct. 30-Nov1, 2009, Boca Raton, FL (talk).
- *Three Dimensional Current Generator Structure of a Mountain Thunderstorm*, SIAM Annual Meeting, Jul. 6-10, 2009, Denver, CO (talk).
- *Mathematics and Climate: Modeling Lightning*, Math-Stat Club Meeting, University of North Florida, Apr. 16, 2009, Jacksonville, FL (invited talk).
- *Three Dimensional Current Generator Structure of a Mountain Thunderstorm*, SIAM-SEAS Conference, Apr. 4-5, 2009, Columbia, SC (talk).
- *Mathematical Methods for Modeling of Lightning and Thunderstorm Electrification*, First Coast MAA Regional Meeting, Jan. 30, 2009, Jacksonville, FL (talk).
- *Three Dimensional Current Generator Structure of a Mountain Thunderstorm*, AGU Fall Meeting, Dec. 15-19, 2008, San Francisco, CA (poster presentation).
- *Session Convener and Session Chair*, AGU Fall Meeting, Dec. 15-19, 2008, San Francisco, California.
- *The change in electric potential due to lightning*, AMS Southeastern Sectional Meeting, Oct. 24-26, 2008, Huntsville, AL (invited talk).
- *The change in electric potential due to lightning*, SIAM Annual Meeting, July. 7-11, 2008, San Diego, CA.
- *A generalized eigenproblem for the Laplacian and its Application to the lightning charge*, SIAM-SEAS Sectional Meeting, Mar. 14-15, 2008, Orlando, FL (invited talk).
- *A generalized eigenproblem for the Laplacian and its Application to the lightning charge*, Seminar Talk, Jan 25, 2008, University of Alabama at Birmingham, AL (invited talk).
- *Lightning charge transport during a thunderstorm near Langmuir Laboratory on 18 August 2004*, AGU Fall Meeting, Dec. 10-14, 2007, San Francisco, California (poster presentation).
- *A continuous approach to the lightning discharge*, Joint Mathematics Meetings, Jan. 5-8, 2007, New Orleans, Louisiana (contributed talk).
- *A continuous approach to the lightning discharge*, AGU Fall Meeting, Dec. 11-15, 2006, San Francisco, California (poster presentation).
- *Sprites, Blue Jets, and Elves*, SIAM Gators Weekly Seminar, Apr. 6, 2006, Gainesville, Florida (Invited talk).

- *A continuous approach to the lightning discharge - one-dimensional case*, AGU Fall Meeting, Dec. 5-9, 2005, San Francisco, California (poster presentation).
- *A continuous approach to the lightning discharge – one-dimensional case*, SIAM-SEAS Sectional Meeting, Mar. 24-25, 2005, Charleston, South Carolina (contributed talk).
- *A continuous approach to the lightning discharge – one-dimensional case*, SIAM Gators Weekly Seminar, Nov. 4, 2004, Gainesville, Florida (Invited talk).
- *SIAM (Society of Industrial and Applied Mathematics) Annual Meeting*, Jul. 12-16, 2004, Portland, Oregon (SIAM sponsored chapter representative).
- *Chair* of the organization committee for the SIAM Gators Student Workshop during the Special Year of Applied Mathematics 2003-2004 (Funded by NSF).
- *Minimum reflection coatings*, Southeastern Conference on Applied Mathematics, Nov. 9-11, 2001, Raleigh, North Carolina (poster presentation).

## **HONORS AND AWARDS**

- The National Scholars Honor Society, 2007
- University of Florida Chapter of SIAM, President (2003-04), Vice President (2002-03)
- Graduate Student Council Travel Grant at UF, 2001, 2005 (twice), and 2007
- SIAM Travel Award, 2004

## **PROFESSIONAL AFFILIATIONS**

- Society of Industrial and Applied Mathematics (SIAM), since 2003
- American Geophysical Union (AGU), since 2005

## **PROGRAMMING ENVIRONMENTS and LANGUAGES**

- UNIX, Windows, MS-DOS, Tex, Matlab, Maple, C

## **LANGUAGES**

- Turkish (native), English (fluent), German (basic), French (basic)