

Troy Lee Henderson, IV

Department of Mathematics
315 Weaver Hall
University of Mobile
Mobile, AL 36613

Phone: (251) 442-2298
Fax: (251) 442-2523
Email: thenderson@umobile.edu
Homepage: <http://www.tlhiv.org>

Education

- Doctor of Philosophy, Mathematics, August 2005. Texas A&M University, College Station, TX.
Thesis: *Causal Equivalence of Frames*
Advisor: *David Larson*
- Master of Arts, Mathematics, August 1999. The University Of Alabama, Tuscaloosa, AL.
Thesis: *The Construction and Application of Wavelet Analysis*
Advisor: *Zhijian Wu*
- Bachelor of Science, Electrical Engineering, May 1997. The University of Alabama, Tuscaloosa, AL.

Postdoctoral Positions

- **Assistant Professor**, *August 2007 – present*
University of Mobile, Mobile, AL 36613.
- **Assistant Professor, Davies Fellow**, *July 2006 – June 2007*
United States Military Academy, West Point, NY 10996.
- **Assistant Professor**, *July 2005 – June 2006*
United States Military Academy, West Point, NY 10996.

Predocctoral Positions

- **NSF Funded GK-12 Resident Mathematician**, *June 2004 – Dec 2004*
Texas A&M University, College Station, TX.

The long-term goal of the NSF GK-12 program is to improve the content of science, technology, engineering, and mathematics (STEM) in rural grades 6-8. Graduate Fellows serve as role models and stimulate students' interest in STEM by conveying the excitement of research and discovery.
- **GPOTS Webmaster**, *March 2004 – Present*

Designed, constructed, and maintained the website for the 24th Annual Great Plains Operator Theory Symposium (GPOTS). GPOTS 2004 was sponsored by National Science Foundation and the Department of Mathematics and the College of Science at Texas A&M University, College Station, TX. Maintain the website for 2004 and all subsequent GPOTS meetings.
- **NSF VIGRE Research Assistant**, *September 2003 – May 2004*
Texas A&M University, College Station, TX.
Advisor: *David Larson*

Developed strategies for the solution of problems in Linear Algebra, Operator Theory, and Analysis in the sub-area of wavelets and frames.

- **Graduate Teaching Assistant**, *September 1999 – August 2003*
Texas A&M University, College Station, TX.
Taught undergraduate mathematics courses for engineering, business, and mathematics majors.
- **Graduate Teaching Assistant**, *January 1998 – August 1999*
The University of Alabama, Tuscaloosa, AL.
Taught undergraduate mathematics courses primarily for business and mathematics majors.
- **Online Signal Processing Course Webmaster**, *August 1997 – December 1997*
Designed, constructed, and maintained the website for an online course in Signal Processing in the Department of Electrical Engineering at The University of Alabama, Tuscaloosa, AL.
- **Undergraduate Research Assistant**, *January 1996 – May 1996*
The University of Alabama, Tuscaloosa, AL.
Advisor: *Robert W. Scharstein*
Developed numerical transform methods for signals and systems.

Teaching Experience

- **Instruction** in Single and Multi-variable Calculus at United States Military Academy (3 semesters).
- **Resident Mathematician** to Somerville Middle School, Somerville, TX. Served as a role model to stimulate students' interest in mathematics by conveying the excitement of research and discovery (2 semesters).
- **Instruction** in Business Calculus (1 semester) and several lower-level undergraduate courses (3 semesters).
- **Recitation** in Calculus for Engineers (8 semesters).
- **Mathematics Computer Laboratory Instruction** in Calculus for Engineers. Taught students in the use of Maple (7 semesters) and Matlab (1 semester).
- **Graded** for Business Calculus (1 semester).
- **Instruction** in Pre-calculus and College Algebra at University of Alabama (2 semesters).

Computer Skills

- **Programming Languages:** BASH, C, Perl, JavaScript, and HTML.
- **Operating Systems:** Unix, Linux, FreeBSD, Solaris, DOS, and all versions of Windows.
- **Mathematics Applications:** Maple, Mathematica, Matlab, and Octave.
- **Other Applications:** T_EX, L^AT_EX, METAPOST, Gnuplot, Xfig, the Gimp, and standard office applications.

Awards

- **AUF Scholar**, September 2004
Texas A&M University, College Station, TX.
- **NSF GK-12 Graduate Fellow**, June 2004
Texas A&M University, College Station, TX.
- **NSF VIGRE Research Assistant Fellow**, September 2003
Texas A&M University, College Station, TX.

- **Engineering Science and Mechanics Honor Society**, January 1997
The University Of Alabama, Tuscaloosa, AL.
- **Undergraduate Research Scholar**, January 1996
The University of Alabama, Tuscaloosa, AL.

Leadership

- Team leader for Integral Calculus (single and multi-variable) at United States Military Academy (1 semester).
- Assisted in training graduate students in multiple departments at Texas A&M University (1 semester).
- Assisted in training graduate students in the Department of Mathematics at Texas A&M University (2 semesters).

Professional Talks

- **Joint Mathematics Meetings**, January 7, 2007
AMS Special Session on Frames and Wavelets in Harmonic Analysis, Geometry, and Applications
New Orleans, LA
- **Joint Mathematics Meetings**, January 6, 2007
MAA Session on Communication Theory in Undergraduate Courses
New Orleans, LA
- **PracT_EX 2006**, July 31, 2006
Rutgers University, Piscataway, NJ.
- **Colloquium, Department of Computer Science**, March 30, 2006
SUNY New Paltz, New Paltz, NY.
- **American Mathematics Society 2005 Western Section Meeting**, November 11-13
University of Oregon, Eugene, OR.
- **Great Plains Operator Theory Symposium (GPOTS) 2005**, June 7-12
University of Central Florida, Orlando, FL.
- **American Mathematics Society 2005 Spring Southeastern Section Meeting**, March 18-19
Special Session on Advances in the Study of Wavelets and Multi-wavelets
Western Kentucky University, Bowling Green, KY.
- **Colloquium, Department of Mathematics, The University of Alabama**, November 10, 2004
The University of Alabama, Tuscaloosa, AL.
- **American Mathematics Society 2004 Fall Southeastern Section Meeting**, October 16-17
Special Session on Wavelets, Frames, and Sampling
Vanderbilt University, Nashville, TN.

Publications

- *A beginner's guide to MetaPost for creating high-quality graphics*, TUGboat, PracT_EX Proceedings, to appear. (Editors requested simultaneous publication with PracT_EX Journal)
- *A beginner's guide to MetaPost for creating high-quality graphics*, PracT_EX Journal, 2006, no. 4. (Editors requested simultaneous publication with TUGboat PracT_EX Proceedings)
- *Embedding fonts in MetaPost output*, TUGboat, vol. 26 (2005), no. 3, pp. 250-252.