

## CURRICULUM VITÆ

LOREN SPICE

Department of Mathematics

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### EDUCATION

- **University of Chicago**, Chicago, IL (1998–2004).
  - Ph. D. in Mathematics (2004).
  - M. S. in Mathematics (2000).
- **Towson University**, Towson, MD (1996–1998).
  - B. S. in Mathematics, *summa cum laude* (1998).
- **Harford Community College**, Bel Air, MD (1994–1996).
  - A. A. in General Studies, *with high honours* (1996).

### APPOINTMENTS

- **Assistant professor** in mathematics, **Texas Christian University** (2009–present).
- **Hildebrandt assistant professor** in mathematics, **University of Michigan** (2004–2008).
- **Research assistant professor** in mathematics, **Purdue University** (Winter 2005).
- **University of Chicago**.
  - **Instructor** in mathematics (2000–2004).
  - **College fellow** in mathematics (1999–2000).

### RESEARCH PAPERS

- *Stability for Reeder’s positive-depth, supercuspidal  $L$ -packets* (joint with S. DeBacker), in preparation.
- *Plancherel formula for  $p$ -adic  $SL_3$* , in preparation.
- *Fourier transforms of semisimple orbital integrals on the Lie algebra of  $SL_2$* , 35 pp., submitted.
- *Supercuspidal characters of  $SL_2$  over a  $p$ -adic field* (joint with J. Adler, S. DeBacker, and P. Sally, Jr.), 50 pp., to appear in “Harmonic analysis on reductive,  $p$ -adic groups” (Contemp. Math.).
- *On the computability of some positive-depth characters near the identity* (joint with C. Cunningham and J. Gordon), 36 pp., accepted by Represent. Theory, subject to revision.
- *Supercuspidal characters of reductive  $p$ -adic groups* (joint with J. Adler), 77 pp. Amer. J. Math., to appear. Available at [arXiv:math.RT/0707.3313](https://arxiv.org/abs/math/0707.3313).
- *Good product expansions for tame elements of  $p$ -adic groups* (joint with J. Adler), Internat. Math. Research P. **2008** (2008), 95 pp. DOI 10.1093/imrn/rpn003. Available at [arXiv:math.RT/0611554](https://arxiv.org/abs/math/0611554).
- *Topological Jordan decompositions*, J. Algebra **319** (2008), no. 8, 3141–3163.

- *Supercuspidal characters of  $SL_\ell$  over a  $p$ -adic field,  $\ell$  a prime*, Amer. J. Math. **127** (2005), no. 1, 51–100.

## EXPOSITORY PAPERS

- *Character theory of reductive  $p$ -adic groups* (joint with P. J. Sally, Jr.), in Ottawa lectures on admissible representations of reductive,  $p$ -adic groups, 103–111.

## FUNDING

- TCU Andrews Institute Research Grant “Bridging the gap” (joint with S. Quebec Fuentes and K. Smith) (\$6000, 2010–2011).
- National Science Foundation **Focussed-Research Grant** “Characters, liftings, and types” (joint with J. Adler, S. DeBacker, J. Hakim, J. Kim, J. Lansky, M. Reeder, N. Thiem, R. Vinroot, J.-K. Yu) (\$104308, 2009–2012).
- National Science Foundation **Mathematical Sciences Post-doctoral Research Fellowship** (2005–2009).
- University of Chicago **Robert H. McCormick Fellowship** (1998–2004).

## RESEARCH TALKS

- *Harmonic analysis on  $p$ -adic  $SL_2$* , sectional meeting of CMS at **University of British Columbia** ( $p$ -adic groups, automorphic forms, and geometry) (December 2010).
- *Characters tell all: Harmonic analysis on reductive  $p$ -adic groups*, Millican Colloquium at **University of North Texas** (October 2010).
- *Harmonic analysis on  $p$ -adic  $SL_2$* , Automorphic Forms and Representation Theory at **Oklahoma University** (October 2010).
- *Supercuspidal characters of  $SL_2$* , conference on characters, liftings, and types at **University of Michigan** (June 2010).
- *Characters tell all: Harmonic analysis on reductive,  $p$ -adic groups*, Kempner Colloquium at **University of Colorado** (April 2010).
- *Supercuspidal characters and applications*, Lie-groups seminar at **MIT** (March 2009).
- *Supercuspidal characters and applications*, Automorphic forms and representation theory seminar at **Purdue University** (March 2009).
- *Harmonic analysis on reductive,  $p$ -adic groups*, Frank Stones Colloquium at **Texas Christian University** (January 2009).
- *Supercuspidal characters and applications*, sectional meeting of AMS at **Western Michigan University** (Representations of real and  $p$ -adic Lie groups) (October 2008).
- *Supercuspidal characters and applications*, sectional meeting of AMS at **University of British Columbia** ( $p$ -adic groups and automorphic forms) (October 2008).
- *Characters of tame  $p$ -adic groups*, sectional meeting of AMS at **DePaul University** (Automorphic forms: representations of  $p$ -adic and adèlic groups) (October 2007).

- *Characters of division algebras over a  $p$ -adic field*, conference on the representation theory of  $p$ -adic groups at **King's College** in honour of Colin Bushnell (June 2007).
- *Characters of division algebras over a  $p$ -adic field*, automorphic forms and representation theory seminar at **Purdue University** (March 2007).
- *Characters of division algebras over a  $p$ -adic field*, study seminar at **University of British Columbia** (November 2006).
- *Characters of division algebras over a  $p$ -adic field*, Midwest representation theory conference at **University of Chicago** (March 2006).
- *Characters of tame division algebras over a  $p$ -adic field*, number theory and representation theory seminar at **University of Toronto** (November 2005).
- *Supercuspidal characters of  $p$ -adic  $SL_\ell$ ,  $\ell$  a prime*, CMS/CSHPM meeting at **University of Waterloo** (Representation theory) (June 2005).
- *Supercuspidal characters of  $SL_\ell$  with  $\ell$  a prime*, I and II, automorphic forms and representation theory seminar at **Purdue University** (January and February 2005).
- *Supercuspidal characters of  $SL_\ell$  over a  $p$ -adic field,  $\ell$  a prime*, sectional meeting of AMS at **Northwestern University** (Representation theory of reductive groups) (October 2004).
- *Supercuspidal characters of  $SL_\ell$  over a  $p$ -adic field,  $\ell$  a prime*, Lie theory and group theory seminar at **University of Michigan** (September 2003).
- *Supercuspidal characters of  $SL_\ell$  over a  $p$ -adic field,  $\ell$  a prime*, student seminar at **University of Chicago** (May 2003).

## EXPOSITORY TALKS

- *Alternatives to the real numbers*, Parabola math club talk at **Texas Christian University** (January 2009).
- *Can you tell me the way to sum to  $A$ ?*, undergraduate mathematics club at **University of Michigan** (January 2008).
- *Quick 'n' dirty sorting*, undergraduate mathematics club at **University of Michigan** (September 2006).
- *$p$ -adic numbers*, REU program at **University of Akron** (Summer 2006).
- *$p$ -adic numbers*, REU program at **University of Akron** (Summer 2005).
- *The  $p$ -adic numbers (or, size does matter)*, undergraduate mathematics club at **University of Michigan** (September 2004).
- *$p$ -adics*, undergraduate mathematics club at **University of Chicago** (February 2004).

## TEACHING EXPERIENCE

- **Texas Christian University**. Fully responsible for all instruction and grading in all courses.
  - MATH 30613, Differential equations (Spring 2011).
  - MATH 60523, Measure theory (Spring 2011).
  - MATH 30613, Differential equations (2 sections, Fall 2010).
  - MATH 10524, Calculus I (Spring 2010).
  - MATH 40970-080/60003, Teaching of mathematics (Spring 2010).

- Independent study, Mathematical proof and computer science (Spring 2010).
- MATH 10524, Calculus I (2 sections, Spring 2010).
- **University of Michigan.** Fully responsible for all instruction and grading in all courses.
  - Math 715, Advanced topics in algebra: Representation theory of reductive  $p$ -adic groups (Fall 2008).
  - Math 431, Topics in geometry for teachers (Fall 2008).
  - Math 594, Algebra II (Winter 2008).
  - Math 486, Concepts basic to secondary-school mathematics (Winter 2008).
  - Math 486, Concepts basic to secondary-school mathematics (Winter 2007).
  - Math 385, Math for elementary-school teachers (Fall 2006).
  - Math 486, Concepts basic to secondary-school mathematics (Winter 2006).
  - Math 416, Theory of algorithms (Fall 2005).
  - Math 215, Multivariable calculus (2 sections, Fall 2004).
- **Purdue University.** Fully responsible for all instruction and grading.
  - Math 266, Ordinary differential equations (Winter 2005).
- **SESAME** program, designed by Paul J. Sally, Jr., to provide a solid mathematical background for practicing secondary-education teachers. Course assistant and note-taker.
  - Algebra (Summer 2008).
  - Number theory (Winter 2001 and Winter 2002).
- **University of Chicago.** Fully responsible for all instruction and grading in all courses except Math 207–209, Honours Analysis, taught by Paul J. Sally, Jr. As college fellow for Math 207–209, responsible for all grading and for holding office hours.
  - Math 195–6, Multi-variable calculus and linear algebra (2003–2004).
  - Math 151–2, Calculus (2000–2001 and 2001–2002).
  - Math 207–9, Honours Analysis (1999–2000).

#### CONFERENCES ORGANISED

- Special session “Harmonic analysis on reductive  $p$ -adic groups” at Joint Mathematics Meetings 2010 (joint with R. Doran and P. Sally, Jr.).

#### SERVICE

- Recording secretary for Student Relations Committee, **Texas Christian University** (2010–2011).
- Faculty Senator, **Texas Christian University** (2010–2012).
- Graduate committee, **Texas Christian University** (2010).
- Calculus textbook selection committee, **Texas Christian University** (2010).
- Cognate member on doctoral committee of Helen Siedel, **University of Michigan** School of Education (2008–2009).
- Academic advisor to mathematics concentrators seeking teaching certificate, **University of Michigan** (2008–2009).

- Undergraduate research experience advisor (with Stephen DeBacker), **University of Michigan** School of Mathematics. Two advisees (Summer 2008).
- Referee for Michigan Math. J. and Internat. Math. Res. Pap.
- Reviewer for Math. Reviews and Math. Zentralblatt.