Neil Lyall

Department of Mathematics
University of Georgia
Athens, GA 30602, USA

Home: (706) 248-6149
Work: (706) 583-0433
e-mail: lyall@math.uga.edu
www.math.uga.edu/~lyall

Citizenship: United Kingdom

Date of Birth: March 4, 1977

Place of Birth: Edinburgh, Scotland.

Current Appointment: *Postdoctoral Associate and Visiting Instructor*, University of Georgia

Previous Appointments:

September 2004 - January 2005: *HARP Young Researcher*, Scuola Normale Superiore di Pisa, Italy

Fall 1999 - Spring 2004: *Teaching Assistant and Instructor*, University of Wisconsin at Madison

Education:

- Doctor of Philosophy in Mathematics, *Advisor: Stephen Wainger*,
  University of Wisconsin at Madison, July 2004.

- Master of Arts in Mathematics,
  University of Wisconsin at Madison, December 2000.

- Bachelor of Science with First Class Honours in Mathematics,
  University of Edinburgh, Scotland, June 1999.

Publications:

1. *Strongly singular integrals along curves* (with Norberto Laghi), submitted

2. *Strongly singular integral operators associated to different quasi-norms on the Heisenberg group* (with Norberto Laghi), submitted

3. *Strongly singular Radon transforms on the Heisenberg group an folding singularities* (with Norberto Laghi), submitted

4. *Two-Weight Estimates for Singular and Strongly Singular Integral Operators* (with V. Kokilashvili and A. Meskhi), to appear in Acta Math. Hungar.

5. *A Class of Strongly Singular Radon Transforms on the Heisenberg Group*, to appear in Proc. Edinb. Math. Soc.

6. *Strongly Singular Convolution Operators on the Heisenberg Group*, to appear in Trans. Amer. Math. Soc.

7. *Strongly singular integral operators on the Heisenberg group - L^2 estimates*, Ph.D. thesis.

Preprints/In preparation: (preprints available upon request)

1. *On a theorem of Sárközy and Furstenberg* (with Ákos Magyar)

2. *Strongly singular integrals on homogeneous groups* (with Norberto Laghi)

Seminar/Conference talks:

On a theorem of Sárközy and Furstenberg
University of Edinburgh, Scotland, December 2006.

On a theorem of Sárközy and Furstenberg
CMS Winter Meeting, Toronto, Canada, December 2006.

On a theorem of Sárközy and Furstenberg
AMS Fall Western Section Meeting, Salt Lake City, October 2006.

On a theorem of Sárközy I & II
University of Georgia, September 2006.

Strongly singular integrals on homogeneous groups.
Satellite conference to the ICM, Sevilla, Spain, August 2006.

Strongly singular integrals along curves in $\mathbf{R}^d$.
HARP conference, Zaros, Crete, Greece, June 2006.

Strongly singular integrals on homogeneous groups.
Universidad Autónoma de Madrid, Spain, June 2006.

Sharp L^2 estimates for strongly singular integral operators on the Heisenberg group.
University of Georgia, March 2005.

Strongly Singular Integrals on the Heisenberg Group.
HARP young researcher conference - Edinburgh, Scotland, November 2004.

Strongly Singular Integrals.
Scuola Normale Superiore di Pisa, Italy, October 2004.

Strongly singular integral operators on the Heisenberg group.
University of Edinburgh, Scotland, January 2004.

Presentations:

Regularity properties of Fourier integral operators.
Specialty exam, University of Wisconsin at Madison, Spring 2002.

Synergistic activities:

- Co-organized REU in Ramsey Theory, June 2005. See *www.math.uga.edu/~lyall/REU*

- Referee for articles

- Student/Expository seminars:

  Math Club, VIGRE graduate student seminar and analysis seminar, University of Georgia.

  Finding Patterns in the Primes, November 2006

  Fourier Analysis: What is it? What is it good for?, October 2006

  Roth's theorem on arithmetic progressions, September 2006

  Ramsey theory and a (dis)proof of Fermat's Last Theorem mod p, November 2005

  Graduate analysis and analysis teaching seminar, University of Wisconsin.

  Strongly singular integral operators on $\mathbf{R}^n$, Spring 2003.

Oscillatory integrals related to Bochner-Riesz and restriction, Fall 2001.

Introduction to the restriction conjecture, Fall 2001.

Ball multiplier conjecture, Fall 2000.

The Brunn-Minkowski inequality, Spring 2000.

Classes taught:

<u>University of Georgia</u>

Calculus I (Math 2200)

Calculus II (Math 2210)

Introduction to Sequences and Series (Math 3100)

Calculus I for Science and Engineering (Math 2250)

Real Analysis (Math 4100/6100)

Fourier Analysis (Math 4900/6900)

<u>University of Wisconsin</u>

Instructor:

Intermediate Algebra

Trigonometry

Calculus with Algebra and Trigonometry I

Teaching Assistant:

Algebra and Trigonometry

Calculus with Algebra and Trigonometry II

Calculus with Analytic Geometry

Topics in Calculus II

Topics in Multi-Variable Calculus and Linear Algebra

Awards and Honors:

- *Superior* teaching rating in 6 of 8 semesters evaluated (University of Wisconsin).

- Excellence in Teaching, May 2002.

- UW-Madison Exceptional Service Award for Teaching Assistants (department nominee), Fall 2003.

References:

<u>Research</u>

- Prof. Stephen Wainger,
  University of Wisconsin at Madison, (608) 263-4064, wainger@math.wisc.edu.

- Prof. Akos Magyar,
  University of Georgia, (706) 542-2543, magyar@math.uga.edu.

- Prof. Andreas Seeger,
  University of Wisconsin at Madison, (608) 262-2932, seeger@math.wisc.edu.

- Prof. James Wright,
  University of Edinbugh, +44 131 650 8570, J.R.Wright@ed.ac.uk.

<u>Teaching</u>

- Prof. Theodore Shifrin,
  University of Georgia, (706) 542-2556, shifrin@math.uga.edu