

CONTACT INFORMATION	Department of Mathematics Drawer 31 High Point University High Point, NC 27268	Email: agrahams@highpoint.edu Website: linus.highpoint.edu/~agrahams Phone: (336) 841-4532
ACADEMIC EMPLOYMENT	High Point University , Department of Mathematics <ul style="list-style-type: none"> • Assistant Professor of Mathematics, Fall 2011 to present. University of North Carolina at Chapel Hill , Department of Mathematics <ul style="list-style-type: none"> • Senior Teaching Fellow, Fall 2010 to Spring 2011. Duties include co-teaching Math 920, mentoring and observing first-time instructors. • Graduate Teaching Assistant, Fall 2006 to Spring 2010. Duties included teaching, assisting and tutoring. 	
EDUCATION	University of North Carolina at Chapel Hill Ph.D. in Mathematics, May 2011 <ul style="list-style-type: none"> • Dissertation Topic: Explicit formulas for local formal Mellin transforms. • Advisor: Dima Arinkin M.S. in Mathematics, May 2010 <ul style="list-style-type: none"> • Masters Topic: Formal reduction of the operator $d/dx + A$ to canonical form. Whitman College B.A. in Mathematics, May 1998 <ul style="list-style-type: none"> • Minor in Geology • Magna cum laude • Phi Beta Kappa 	
UNIVERSITY COURSES TAUGHT	<ul style="list-style-type: none"> • Game Theory • Special Topics in Math • Precalculus • Business Calculus • Calculus Support Workshop • Calculus I • Calculus II • Explorations in Mathematical Research • Mathematical Ideas (Math for Elementary Educators) • Discrete Math • Introduction to Mathematical Thought • Calculus III • Linear Algebra • Abstract Algebra • Problem Solving Seminar • Teaching Seminar for Graduate Teaching Assistants (at UNCCH) 	
RESEARCH INTERESTS	Voting Theory, Algebraic Geometry, Local Integral Transforms, Game Theory, Recreational Mathematics, Mathematics Education.	

- PUBLICATIONS (with D. Naylor and N. Zayatz) *Preliminary Investigation of Monotonicity Anomalies in Real-World IRV data*, in preparation.
- (with L. Carnell, K. O'Hara, and L.C. Piechnik) *Environmental Impacts: how comparative prior knowledge affects students' Calculus experience*, accepted for publication in PRIMUS.
- Explicit calculation of local formal Mellin transforms*, Pacific Journal of Mathematics 283-1 (2016), 115–137. DOI: 10.2140/pjm.2016.283.115
- (with L. Zack, J. Fuselier, R. Lamb, and K. O'Hara) *Flipping Freshman Mathematics*, PRIMUS, 25(9-10) (2015), 803–813. DOI: 10.1080/10511970.2015.1031302
- (with E. Farnell and J. Stockton) *Mat-Rix-Toe: Improving writing through a game-based linear algebra project*, PRIMUS, 24(6) (2014), 491–512. DOI: 10.1080/10511970.2013.876476
- Calculation of local formal Fourier transforms*, Arkiv för Matematik, 51 (2013), 71–84 DOI: 10.1007/s11512-011-0156-2
- HONORS, AWARDS, GRANTS
- | | |
|-------------|---|
| Fall 2017 | Granted tenure and promotion to Associate professor |
| Spring 2015 | Co-PI on STEM Club grant for Thomasville City Schools |
| Spring 2015 | Granted Course Reduction Award |
| 2014-2015 | HPU Teaching Scholar Award |
| 2011-2012 | Project NExT Fellow |
| Spring 2011 | GAANN Fellowship |
| Summer 2010 | Future Faculty Fellowship Award |
| Spring 2010 | GAANN Fellowship |
| Spring 2009 | Nominated for Linker Teaching Award |
| 1998 | Phi Beta Kappa |
| 1998 | Award for Outstanding Student Services at Whitman |
| 1994–1998 | Whitman Merit Scholar, Whitman College |
| 1994–1998 | National Merit Scholar |
- PRESENTATIONS
- Introducing fun research through a one-credit course*, Talk given at MAA-SE conference (Mar. 2017)
- Voting Dilemmas: Is democracy a mathematical farce?*, Colloquium talk given at Longwood University (October, 2016)
- Environmental Impacts: how comparative prior knowledge affects students' Calculus experience*, Talk given at SOTL conference (May 2016)
- Differentiated Calculus: How does prior Calculus knowledge of peers affect students' experience in Calculus?*, Talk given at MAA-SE conference (Mar. 2016)
- Monotonicity Violations in Instant Runoff Voting*, Talk given at MAA-SE conference (Mar. 2016)
- Monotonicity Violations in Instant Runoff Voting*, Talk given at High Point University (Sept. 2015)
- The Mathematics of Enemy-Protector*, Talk given at MAA-SE conference (Mar. 2015)
- (with K. O'Hara) *Flipping Freshman Mathematics*, Talk given at Mathfest (Aug. 2014)

(with L. Zack, J. Fuselier and K. O'Hara) *Flipping Freshman Mathematics*, Presentation as part of HPU panel discussion on the flipped classroom (Mar. 2014)

(with K. O'Hara) *Flipping Freshman Mathematics*, Talk given at MAA-SE conference (Mar. 2014)

Mat-Rix-Toe: Improving Writing in Linear Algebra, Talk given at MAA-SE conference (Mar. 2014)

Mat-Rix-Toe: Where Tic-Tac-Toe and Linear Algebra collide, Talk given at MAA-SE conference (Mar. 2013)

Why democracy is a sham, Talk given at Democracy USA Colloquium, High Point University (Nov. 2012)

Explicit calculations of local formal integral transforms, Talk given at Mathfest (Aug. 2012)

Mat-Rix-Toe: Explaining, writing and editing in Linear Algebra, Talk given at Mathfest (Aug. 2012)

Beyond Jeopardy! Games for Learning Mathematics, Panel discussion given at Joint Mathematics Meetings (Jan. 2012), Co-organizer and moderator.

Extensions of formal power series, Talk given at High Point University (Mar. 2011)

Local Formal Integral Transforms, Talk given at GMA Visions Seminar at UNC Chapel Hill (Nov. 2010)

Reduction of the Operator $d/dx + A$ to Canonical Form, Talk given at GMA Visions Seminar at UNC Chapel Hill (Nov. 2009)

STUDENTS
MENTORED

Joanna Fass (2017-): Researched optimal strategies for different versions of the linear algebra game MatRixToe. Joanna has presented her research twice at HPU.

Nick Zayatz and David Naylor, (2013-2014): researched voting anomalies in real-world instant run-off election data. Students presented four times (Twice at Gatlinburg CS conference, MAA-SE, and High-PURCS)

SERVICE

2017-present: Member of General Education Assessment committee

2012-present: Member of Teacher Education Council

2013-2016: Member of Global Studies committee

Organized cultural event (April, 2014): FIXED film.

Chaired departmental committee on peer observation, led initial phase of peer observation program in spring of 2014.

Assisted with departmental program review in Fall of 2016.

OTHER TEACHING
EXPERIENCE

2006 to 2011 University of North Carolina, Chapel Hill, NC. Taught numerous undergraduate courses.
 2003 to 2005 Washington Prep High School, Los Angeles, USA. Taught Algebra II, Geometry and Algebra I.
 2000 to 2002 Dantakali M.V., Dharan, Nepal. Taught middle school math in Nepali as a Peace Corps volunteer.
 1999 Bunya Combined School, Bunya, Namibia. Taught high school math in English as a Peace Corps volunteer.

CONFERENCES
 ATTENDED

Geometry of Redistricting Workshop: Duke University, Durham, NC (November 2017)
Geometry of Redistricting Workshop: Tufts University, Boston, MA (August 2017)
MAA-SE: Mercer University, Macon, GA (March 2017)
SCUWM: Duke University, Durham, NC (November 2016)
MAA-SE: University of Alabama at Birmingham, Birmingham, AL (March 2016)
MAA-SE: UNC Wilmington, Wilmington, NC (March 2015)
Mathfest: Portland, OR (August 2014)
MAA-SE: Tennessee Tech University, Cookeville, TN (March 2014)
MAA-SE: Winthrop University, Rock Hill, SC (March 2013)
Mathfest/Project NExT: Madison, WI (August 2012)
Joint Mathematics Meetings: Boston, MA (January 2012)
Mathfest/Project NExT: Lexington, KY (August 2011)
Joint Mathematics Meetings: New Orleans (January 2011)
Eigenvalue and Saturation Problems for Reductive Groups: UNC Chapel Hill (May 2009)
23rd Annual Geometry Festival: Duke University (April 2008)

MEMBERSHIPS

Mathematics Association of America