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CAMILLIA SMITH BARNES

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EDUCATION

Harvard University

- PHD (*Philosophiae Doctor*), Mathematics
- AM (*Artium Magister*), Mathematics

Cambridge, MA

June 2009

June 2007

University of Cambridge

- MAST (*Master of Advanced Study*), Mathematics, with *Merit*

Cambridge, UK

June 2003

Michigan State University

- MS (*Master of Science*), Mathematics
- Honors BS (*Bachelor of Science*), Mathematics, with *Highest Distinction*, Lyman Briggs School
- Honors BA (*Bachelor of Arts*), English, with *Highest Distinction*
- Honors BA (*Bachelor of Arts*), French, with *Highest Distinction*

East Lansing, MI

May 2002

May 2002

August 2002

August 2002

Université de Paris IV–Sorbonne

- CERTIFICAT PRATIQUE de langue française, premier degré, avec mention « *bien* »

Paris, France

April 2000

EMPLOYMENT

Associate Professor, Department of Mathematics

- Taught 26 courses (13 distinct) & ~150 students; spoke at 2 colloquia; received 1 grant
- Selected courses: Calculus III & IV; Modern Algebra; Linear Algebra; Combinatorics; Mathematical Methods in Physics (with **Mathematica**)

University of Science & Arts of Oklahoma, 2015–present

Assistant Professor, Department of Mathematical Sciences

- Taught 34 courses (8 distinct) & ~400 students; mentored 8 research students; spoke at 9 conferences & 9 colloquia; received 8 grants (2 external)
- Selected courses: Calculus III; Mathematical Statistics; Algebraic Structures; Abstract Algebra; Mathematical Proofs; **Java** Programming

Sweet Briar College, 2009–2015

Teaching Fellow, Department of Mathematics

- Taught 2 courses & ~50 students; spoke at 3 conferences & 4 colloquia; received 2 grants (1 external)
- Courses: Introduction to Functions & Calculus; Linear Algebra & Differential Equations

Harvard University, 2008

Math Editor, McDougal Littell

- Customized Ron Larson's *Geometry* for Texas schools by correlating ~80 textbook sections with Texas state standards
- Proofread & reformatted ~800 pages; wrote ~200 new standardized test preparation exercises

Houghton Mifflin Company, 2005

Summer Research Intern, AT&T Labs–Research

- Researched location & tightening of upper bounds for optimal codes correcting a single transposition error
- Programmed in **Maple** to find first 10 bounds; helped to conjecture pattern for subsequent bounds

AT&T Shannon Laboratories, 2003

MAJOR SCHOLARSHIPS & FELLOWSHIPS

AT&T Labs Fellow: AT&T Labs Fellowship Program (3-year full tuition, stipend, & internship)

AT&T Labs–Research, 2003

National Defense Science & Engineering Graduate Fellow[†] (3-year full tuition & stipend)

American Society for Engineering Education, 2002 & 2003

National Science Foundation Graduate Research Fellow (3-year full tuition & stipend)

National Science Foundation, 2002

Churchill Scholar (1-year full tuition & stipend at Cambridge)

Winston Churchill Foundation of the United States, 2002

UK Fulbright Scholar National Finalist: United States

Fulbright Scholar Program, 2002

Rhodes Scholar State Finalist: Michigan

The Rhodes Trust, 2001

Marshall Scholar Regional Finalist: Midwest

Marshall Aid Commemoration Commission, 2001

Alumni Distinguished Scholar (4-year full room, board, & tuition at Michigan State)

Michigan State University, 1997

National Merit Scholar: John M. Stalnaker Memorial Scholarship (4-year, \$10,000 total)

National Merit Scholarship Corporation, 1997

SELECTED NATIONAL AWARDS

William Lowell Putnam Competition: Top 500

Mathematical Association of America, 2000 & 2001

Alice T. Schafer Mathematics Prize: Honorable Mention

Association of Women in Mathematics, 1999

Mathematical Contest in Modeling: Honorable Mention

Consortium for Mathematics & Its Applications, 1998 & 1999

Phi Beta Kappa Society: Inductee

Michigan State University, 1999

RECENT SOFTWARE PROJECTS

Math Genealogy Mapper,[¶] **Python**: Web scraper to extract math PhD student-advisor lineages

2017

- Crawls Math Genealogy Project website & collects data for given mathematician; generates **LaTeX** file to output formatted PhD tree as PDF

Joke Fetcher, **Swift**: iOS joke-generating app

2017

- Queries Internet Chuck Norris Database API & parses obtained JSON; optionally inputs name to substitute in jokes

Bull's-Eye Guesstimation,[¶] **Swift**: Graphical iOS guessing game

2016

- Stores user statistics & customization via Core Data; optimizes storage space by generating vector graphics at runtime

Kanoodle Solver, **C++**: Interactive app to solve Kanoodle Puzzles

2016

- Inputs puzzle from file or manually using symmetries & solves it via depth-first search; outputs results graphically in user-chosen colors

TECHNICAL SKILLS

C/C++,^Σ **LaTeX**,^Σ **Swift**,[¶] **Python**,[¶] **MySQL**,[¶] **Mathematica**,[¶] **MATLAB**,^λ **AppleScript**,^λ **Maple**,^ℝ **Java**,^ℝ **Pascal**,^ℝ

[†] declined [¶] in progress ^Σ significant experience [¶] current experience ^λ limited experience ^ℝ significant prior experience but rusty