

# AMELIA A. MCNAMARA

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## EDUCATION

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**University of California - Los Angeles**, Los Angeles, CA Ph.D. expected June 2015  
**Field:** Statistics GPA 3.90

**Honors:** Chancellor's Prize Summer Fellowship (2010-2011),  
National Science Foundation Graduate Research Fellowship Program Honorable Mention (2012),  
Collegium of University Teaching Fellows (2014-2015), Dissertation Year Fellowship (2014-2015)

**Macalester College**, St. Paul, MN B.A. May 2010  
**Majors:** Mathematics, English GPA 3.63

**Honors:** *Cum laude* honors (2010), Dean's List (Fall 2008, Spring 2009, Spring 2010), Alliss Scholarship (2007-2010), Xcel Energy Foundation Scholarship (2009-2010), Konhauser Prize for Mathematical Achievement (2010)

**University of Cincinnati**, Cincinnati, OH 2006-2007  
**College:** Design, Architecture, Art and Planning (DAAP) GPA 3.80

**Honors:** UC|21 Scholar, National Merit Scholar

## RESEARCH

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**Viewpoints Research Institute**, Glendale, CA 2013-present

Intern, Communications Design Group

- Work with VPRI team to conceptualize new tools for collaborative work
- Develop R code and packages
- Director: Alan Kay

**Mobilize Project**, Los Angeles, CA 2011-present

Graduate Student Researcher

- Develop curriculum to be deployed in LAUSD public schools, including Introduction to Data Science course
- Train teachers on basic statistical concepts, use of inquiry in teaching, and basic statistical software
- Principle Investigator: Rob Gould

**Macalester College**, St. Paul, MN Summers 2009, 2010

Undergraduate Researcher, XMAC lab

- Performed numerical analysis of Turing patterns
- Advisor: Chad Topaz
- Coauthored paper: A. Catllá, A. McNamara, and C.M. Topaz. Instabilities and patterns in coupled reaction-diffusion layers, *Phys. Rev. E* 85 (2) (2012) 026215.

**Institute for Mathematics and its Applications**, Minneapolis, MN Summer 2009

REU Participant

- Participated in a National Science Foundation Research Experience for Undergraduates (REU)
- Studied a model and optimization for organic photovoltaic cells
- Advisors: Fadil Santosa, Tsvetanka Sendova

## TEACHING

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**UCLA Statistics Department**, Los Angeles, CA

Spring 2015

Collegium of University Teaching Fellows

**STAT 98T**: Data Visualization

- Develop syllabus on data visualization from scratch
- As instructor of record, teach the general education seminar to a group of 12-15 students
- Perform formative assessment of students
- Grade final papers and intermediate assessments

**UCLA Statistics Department**, Los Angeles, CA

2013-2014

Statistics Teaching Fellow

**STAT 101A**: Introduction to Data Analysis and Regression (Instructor: Mahtash Esfandiari)

**STAT 102B**: Introduction to Computation and Optimization (Instructor: Juana Sanchez)

**STAT 101C**: Introduction to Regression and Data Mining (Instructor: Rob Gould)

- Prepped and led weekly discussion sections for students
- Held twice-weekly office hours
- Assisted students' statistics and R learning
- Graded exams and homework

**Macalester College Math Department**, St. Paul, MN

2009-2010

Preceptor

**MATH 135**: Applied Calculus (Instructors: Tom Halverson, Karen Saxe)

- Held weekly office hours
- Taught students calculus and R skills
- Graded homework and projects

**Hamline University**, St. Paul, MN

2008-2010

MathMasters Tutor

- Tutored groups of ninth-grade students who were in danger of failing basic standard math exams
- Material covered was algebra and geometry
- Tailored work to individual students

## PUBLICATIONS

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McNamara, A. **Community engagement and subgroup meta-knowledge: Some factors in the soul of a community.** *Computational Statistics*. (submitted 2014).

McNamara, A. and Hansen, M. **Teaching Data Science to Teenagers.** *Proceedings of the 9th International Conference on Teaching Statistics*. (2014).

McNamara, A. **Dynamic Documents with R and knitr** (book review). *Journal of Statistical Software*, Vol. 56, Book Review 2. (2014).

Catllá, A.J., McNamara, A. and Topaz, C. M. **Instabilities and Patterns in Coupled Reaction-Diffusion Layers.** *Physical Review E*, Vol. 85, Issue 2. (2012).

## PRESENTATIONS

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**Teaching Data Science to Teenagers** (invited talk, with M. Hansen)

July 2014

International Conference on Teaching Statistics

Flagstaff, AZ

**Teaching R to High School Students** (with J. Molyneux)

July 2014

useR! The R User Conference

Los Angeles, CA

<b>LivelyR: Making R Charts Livelier</b> (main author A. Lunzer) useR! The R User Conference	July 2014 <i>Los Angeles, CA</i>
<b>heR Panel Discussion</b> (panelist) useR! The R User Conference	July 2014 <i>Los Angeles, CA</i>
<b>Mobilize Project</b> (with J. Margolis and L. Trusela) Math Science Partnership Learning Network Conference	January 2012 <i>Washington, DC</i>
<b>Model and Optimization of Organic Photovoltaic Cells</b> Joint Meeting of AMS and MAA	January 2010 <i>San Francisco, CA</i>

## POSTER PRESENTATIONS

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<b>It Ain't Necessarily So: Checking Charts for Robustness</b> (with A. Lunzer) IEEE Vis Conference	November 2014 <i>Paris, France</i>
<b>Tools for Teaching Data Science</b> Women in Statistics Conference	May 2014 <i>Cary, NC</i>
<b>Data Visualization on the Soul of the Community</b> Joint Statistical Meetings	August 2013 <i>Montreal, QC</i>
<b>Model and Optimization of Organic Photovoltaic Cells</b> Joint Meeting of AMS and MAA	January 2010 <i>San Francisco, CA</i>
<b>Model and Optimization of Organic Photovoltaic Cells</b> Undergraduate Research Symposium, University of Chicago	November 2009 <i>Chicago, IL</i>
<b>Model and Optimization of Organic Photovoltaic Cells</b> Macalester College	October 2009 <i>St. Paul, MN</i>
<b>Model and Optimization of Organic Photovoltaic Cells</b> Institute for Mathematics and its Applications	July 2009 <i>Minneapolis, MN</i>

## ADDITIONAL CONFERENCES AND WORKSHOPS ATTENDED

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<b>Eyeo Festival</b> Converge to Inspire	June 2014 <i>Minneapolis, MN</i>
<b>rOpenSci hackathon</b> Open Science Hackathon (invitation only)	March 2014 <i>San Francisco, CA</i>
<b>NICAR 2014</b> Investigative Reporters & Editors Conference	February 2014 <i>Baltimore, MD</i>
<b>Eyeo Festival</b> Converge to Inspire	June 2013 <i>Minneapolis, MN</i>
<b>Computation + Journalism Symposium</b> 2 <sup>nd</sup> Symposium on Computation + Journalism	January 2013 <i>Atlanta, GA</i>
<b>Math Science Partnership Learning Network Conference</b> Implementation: From Vision to Impact	January 2013 <i>Washington, DC</i>

<b>Interface Symposium: Future of Statistical Computing</b> Internet Scale Data, Flexible Modeling, and Visualization	May 2012 <i>Houston, TX</i>
<b>Math Science Partnership Learning Network Conference</b> Framing Effective Teaching in STEM	January 2012 <i>Washington, DC</i>
<b>Workshop at the Statistical and Applied Mathematical Sciences Institute</b> Space-Time Analysis for Environmental Mapping, Epidemiology and Climate Change	October 2009 <i>Durham, NC</i>
<b>Workshop at the University of California, Berkeley</b> Explorations in Statistics Research	Summer 2009 <i>Berkeley, CA</i>

## SERVICE TO DEPARTMENT, PROFESSION AND COLLEGE

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<b>Planning Member, useR! Conference Organizing Committee</b> Assisted in planning and executing the 2014 international R user conference (700 attendees) Recruited and coordinated 80 student volunteers Assisted with conference website before, during, and after the conference Promoted conference on social media, encouraged minority participation Supervised on-the-ground conference logistics, including registration, catering, and facilities services	2013-2014
<b>Judge, Southern California AP Statistics Poster Competition</b> Judged entries to the 2014 Southern California AP Statistics Poster Competition	2014
<b>Interviewer and representative, Macalester College Admissions Department</b> Performed alumni interviews of Southern California prospective students applying to Macalester Represented Macalester at a college fair	2013-present
<b>UCLA Delegate, UC Day in DC</b> Attended the University of California's annual federal advocacy day in Washington, DC Represented UCLA and graduate student interests	2013
<b>Planning Member, UCLA Statistics Department DataFest</b> Assisted in planning and executing the annual DataFest weekend-long event for undergraduates	2012-present
<b>Tour Coordinator, UCLA Graduate Student Orientation Planning Committee</b> Organized volunteer tour guides Prepared tour materials and checked routes As a member of the orientation committee, discussed general orientation issues	2012-2013
<b>Voting Member, UCLA Graduate Resource Center Oversight Committee</b> Assisted in developing new strategic plan for UCLA's graduate resource center	2011-2012
<b>Voting Member, Macalester College Honorary Degree Committee</b> Assisted in the determination of honorary degree recipients from the college	2010
<b>Voting Member, Macalester College Financial Affairs Commission (FAC)</b> The FAC is responsible for maintaining the student government's \$100,000 yearly budget	2009-2010
<b>Department Liaison, Macalester College Math Department</b> Participated in monthly department meetings, provided students' perspectives to faculty	2008-2009

## SKILLS

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<b>Language</b>	Conversational in Spanish
<b>Design</b>	Adobe suite (Illustrator, InDesign, etc.), HTML and CSS
<b>Office</b>	Microsoft Office suite, copy editing, proofreading
<b>Technical Software</b>	Matlab, Mathematica, R, Comsol, ArcGIS, Python, LaTeX, JavaScript

## MEMBERSHIPS IN PROFESSIONAL SOCIETIES

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<b>WNAR: International Biometric Society (WNAR)</b>	2013-present
<b>American Statistical Association (ASA)</b>	2012-present
<b>Society for Industrial and Applied Mathematics (SIAM)</b>	2012-present
<b>Association for Women in Mathematics (AWM)</b>	2008-2010

## RELEVANT COURSEWORK

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### Statistical

Applied Probability	UCLA	Fall 2010
Research Design, Sampling, and Analysis	UCLA	Fall 2010
Regression Analysis: Model Building, Fitting, and Criticism	UCLA	Winter 2011
Matrix Algebra and Optimization	UCLA	Winter 2011
Theoretical Statistics	UCLA	Winter 2011
Large Sample Theory	UCLA	Spring 2011
Advanced Modeling and Inference	UCLA	Spring 2011
Monte Carlo Methods for Optimization	UCLA	Spring 2011
Data and the Media Arts	UCLA	Spring 2011
Spatial Statistics	UCLA	Fall 2011
Data, Data Practices, and Data Curation I	UCLA	Winter 2012
Data, Data Practices, and Data Curation II	UCLA	Spring 2012

### Mathematical

Linear Algebra	Macalester College	Fall 2007
Discrete Mathematics	Macalester College	Spring 2008
Multivariable Calculus	Macalester College	Spring 2008
Differential Equations	Macalester College	Fall 2008
Algebraic Structures	Macalester College	Spring 2009
Continuous Applied Mathematics	Macalester College	Spring 2009
Real Analysis	Macalester College	Fall 2009
Topics in Modern Algebra	Macalester College	Fall 2009
Complex Analysis	Macalester College	Spring 2010

### Geographical

Urban Geography	Macalester College	Fall 2008
Introduction to Geographic Information Systems	Macalester College	Fall 2009

### Computational

Statistics Programming	UCLA	Fall 2010
Computing for Data Analysis	Coursera	Fall 2012
Programming Media	UCLA	Fall 2012
Computer Programming Languages and Systems	UCLA	Winter 2013
Human/Computer Interaction	UCLA	Winter 2013

### Educational

Teaching College Statistics	UCLA	Fall 2010
High School Reform	UCLA	Fall 2011
High School Reform	UCLA	Winter 2012
Collegium of University Teaching Fellows Seminar	UCLA	Fall 2014