

# Dr. Rachel Levy

Communicator Creative Collaborator Consensus-builder Math Ambassador

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## EXPERIENCE

### **Mathematical Association of America, Washington, DC — *Deputy Executive Director***

AUGUST 2018 - PRESENT

Directed management of over 8M of grant and foundation-funded programs and 2M competitions programs. Strategic work building diverse teams to enact core values of Inclusivity, Teaching and Learning, Community and Communication.

### **Harvey Mudd College, Claremont, CA — *promoted to Professor and Associate Dean for Faculty Development***

JULY 2007 - JULY 2019

Collaborative educator and researcher. Generated \$1.6M in applied mathematics and mathematics education funding. Prolific writer and editor of textbooks, articles and blogs. Actively engaged in faculty efforts to diversify student body. Co-developed inclusive mathematics and writing courses. Supervised postdoctoral researchers, mentored junior faculty and instituted new professional development for department chairs.

### **Duke University, Durham, NC — *Postdoctoral Researcher***

AUGUST 2005 - AUGUST 2007

Focus on project-based learning and mathematical modeling. Taught multivariable calculus and fluid mechanics as well as in the Master of Arts in Teaching program.

### **Carolina Friends School, Durham, NC — *Middle and High School Faculty and Upper School Dean***

AUGUST 1991 - AUGUST 1995 and AUGUST 1997 - AUGUST 2001

Collaborative mathematics and writing teacher, active teacher educator, educational technology developer. Managed accommodations for special learning needs.

### **Duke University Talent Identification Program, Durham, NC — *promoted to mathematics program coordinator***

SUMMERS, 1986 - 1991

Innovative course and publication developer. Supervisor of instruction. Broadened mathematics program focus beyond acceleration to deep enrichment.

## SKILLS

Mathematical Modeling

Executive Leadership

Instructional Design

Writing

Press Communication

Public Speaking

## AWARDS

### **Harvey Mudd College Outstanding Faculty Award April 2016**

Article featured in *Best Writing in Mathematics, Princeton Press*, 2016

### **Most read blogposts, MAA**

*Teaching Tidbits* 2016-2017 and  
*American Scientist Macroscope* 2015  
and 2016

### **Mathematical Association of America Alder Award for Distinguished Teaching August 2013**

**Iris and Howard Critchell Chair**  
2011-2012

**SIAM Student Paper Prize 2005**

## EDUCATION

**North Carolina State University, Raleigh, NC** — *MS and PhD Applied Mathematics*

AUGUST 2001 - AUGUST 2005

**University of North Carolina at Chapel Hill, Chapel Hill, NC** — *MA Educational Media and Instructional Design*

AUGUST 1994 - JUNE 1996

**Oberlin College, Oberlin, OH** — *BA Mathematics and Honors in English*

AUGUST 1985 - JUNE 1989

## PUBLICATIONS

**4 textbooks** on careers, partial differential equations and math modeling education.

**3 book chapters** on mathematical modeling education.

**15 peer-reviewed applied mathematics articles** on systems of parabolic-hyperbolic partial differential equations modeling fluids.

**9 peer-reviewed applied mathematics education articles** on flipped classrooms and mathematical modeling.

**15+ professional society publications**, including MAA Focus, MAA Math Horizons, SIAM News, AMS Notices, NCTM Mathematics Teacher and ASA Chance.

**Blogger** for MAA MathValues (founder), American Scientist Macroscopic, Tenure She Wrote, MAA Teaching Tidbits (founder) and Grandma got STEM (founder).

## INNOVATION

### **BIG Math Network**

Co-founded the Business, Industry and Government (BIG) Mathematics Network to connect mathematical scientists with careers.

### **VITAL Faculty**

Coined the positive term “VITAL Faculty” for Visitors, Instructors, TAs, Adjuncts and Lecturers. Acronym adopted for successful NSF grant and new Mathematical Association of America membership category

### **BIG Interview Game**

Produced cooperative card game to inform students about jobs available to mathematical scientists while providing interview practice and tips. Game currently sold by MAA, SIAM and AMS.

## TEACHING

### **Mathematical Modeling Education Specialist**

30 years infusing mathematical modeling, computation and data into mathematics courses from fifth grade through middle school to high school calculus and statistics and college courses from differential equations to graduate fluid mechanics.

### **Inclusive Research Advisor**

From 2007-2018 at Harvey Mudd College, supervised diverse group of 50 undergraduate research students resulting in 6 senior theses, 5 industry projects, 4 undergraduate student publications, 12 student presentations and an ongoing teacher education program.

### **Industrial Mathematics Mentor**

Experienced advisor of undergraduate industrial mathematics capstones, including problem recruitment and development.

## SERVICE TO THE PROFESSION

### **Experienced Press Communicator**

Interviews on radio (NPR, Australian Broadcast Company), in news media (LA Times, Calcalist, USA Today, US News and World Report), journals (Ed Week, American Scientist, the Atlantic), and online publications (Slate, boingboing, Jezebel, Canadian Broadcast Company, Campus Technology, Inside Higher Ed).

### **Empowering Teacher Educator**

Developed professional development in mathematics for public and private schools for teachers K-12, including mathematical modeling program for elementary school teachers adopted and sustained by the Pomona Unified School District in California.

### **Engaging and Interactive Presenter**

Collaborative webinar, workshop and plenary speaker on fluid mechanics, data science careers, teacher education, press communication, active learning and math modeling.

### **Education Leader and Advisor**

Advisor on national and international mathematics education policy, serving as Society for Industrial and Applied Mathematics (SIAM) Vice President for Education.

Member of Conference Board for the Mathematical Sciences (CBMS) Research Advisory Group; Transforming Post-Secondary Education in Mathematics (TPSE Math) Advisory Group; Dana Center Launch Years Consensus Panel; and CodeR4Math Advisory Board.

Lead writer for three professional reports on education and careers; chair of Harvey Mudd College Mathematics Department review.

### **International Education Consultant**

Workshop teleconference leader for faculty at Habib University, Pakistan.

Speaker, consultant or teacher at five Korean institutes/universities.