

# DIVYA E. VERNEREY (née Devadoss)

(updated December 2015)

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## EDUCATION:

- Ph.D., Engineering Sciences and Applied Mathematics, June 2004  
Northwestern University, Evanston, IL  
Dissertation research: "Mathematical Modeling of Polymerization Waves"  
Committee: Vladimir A. Volpert (chair), David Chopp, Alvin Bayliss

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## COURSES TAUGHT:

1. Partial Differential Equations (MATH 4470/5470), undergraduate and graduate class, UCB, Spring 2015, Spring 2014.  
Textbook: K. Gustafson, Introduction to Partial Differential Equations and Hilbert Space Methods, 3<sup>rd</sup> edition, revised, Dover, 1999.  
Technology: Mathematica, D2L.
2. Ordinary Differential Equations (MATH 3430), UCB, Fall 2014.  
Textbook: M. Braun, Differential Equations and Their Applications, 4<sup>th</sup> edition, Springer, 1991.  
Technology: Mathematica, D2L.
3. Introduction to Linear Algebra (MATH 3130), UCB, Fall 2014, Fall 2008.  
Textbook: D. Lay, Linear Algebra and its Applications, 4<sup>th</sup> edition, Addison-Wesley, 2012.  
Technology: D2L.
4. Introduction to Statistics (MATH 2510), UCB, Spring 2008.  
Textbook: McClave and Sincich, Statistics, 10<sup>th</sup> edition, Pearson.  
Technology: scientific calculator.

5. Calculus I: Differential Calculus (MATH 1300), sections including Honors RAP, UCB, Spring 2014, Spring 2009, Fall 2008, Spring 2008, Fall 2007.  
Textbook: Hughes-Hallett, Gleason, et al., Calculus, 5<sup>th</sup> edition, Wiley, 2009.  
Technology: WebWork, D2L.
  6. Precalculus (MATH 1150), large and small sections, UCB, Spring 2015, Fall 2014, Spring 2014, Fall 2009.  
Textbook: M. Dugopolski, Precalculus: Functions and Graphs, 4<sup>th</sup> edition, Pearson, 2013.  
Technology: WebWork, Clickers, D2L.
  7. Math Analysis in Business (MATH 1112), UCB, Spring 2015.  
Textbook: none (Pedagogy of flipped classroom with group work on modules)  
Technology: EXCEL, D2L.
  8. Calculus for Social Science and Business (MATH 1081), UCB, Spring 2013.  
Textbook: Lial, Greenwell and Ritchey, Calculus with Applications, 10<sup>th</sup> edition, Pearson, 2012.  
Technology: MyMathLab, Clickers, D2L.
  9. Finite Mathematics (MATH 1071), sections including Libby RAP, UCB, Fall 2013, Fall 2012.  
Textbook: Lial, Hungerford, Holcomb, Finite Mathematics with Applications, 10<sup>th</sup> edition, Pearson.  
Technology: MyMathLab, Clickers, D2L.
  10. Quantitative Reasoning and Math Skills (MATH 1012), UCB, Spring 2010.  
Textbook: Bennett and Briggs, Using and Understanding Mathematics: A Quantitative Reasoning Approach, 4<sup>th</sup> edition, Pearson, 2008.
  11. College Algebra (MATH 1011), UCB, Spring 2012, Fall 2011, Fall 2010, Spring 2008.  
Textbook: Young, College Algebra, 1<sup>st</sup> edition, Wiley, 2006.  
Technology: CULearn (online homework and class website), Clickers.
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## **RESEARCH INTERESTS:**

- Partial differential equations, specifically, systems of nonlinear reaction-diffusion equations, mathematical modeling using both analytical and computational methods.
- Expansion of mathematics, physics, and chemistry to develop mathematical models of the frontal polymerization process.
- Mathematical biology, in particular, tissue engineering and tissue growth, which can lead to propagation of degradation fronts.