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Reshma Ramadurai

CV

Education

- 2007–present CARNEGIE MELLON UNIVERSITY, Pittsburgh, PA
PhD in Mathematics (expected 2011)
Advisor: Andrzej Dudek
- 2005–2007 UNIVERSITY OF ILLINOIS AT CHICAGO, Chicago, IL
Candidate for Doctor of Philosophy in Mathematics
- 2004–2005 UNIVERSITY OF ILLINOIS AT CHICAGO, Chicago, IL
M.S. in Mathematical Computer Science
- 1998–2002 NATIONAL INSTITUTE OF TECHNOLOGY, Calicut, India
B.Tech in Computer Science and Engineering

Research Interests

Extremal and Probabilistic Combinatorics
Graph Theory

Research Experience

Publications

On Induced Folkman Numbers

(with A. Dudek and V. Rödl), submitted to Random Structures and Algorithms

Vertex Colorings of Graphs without Short Odd Cycles

(with A. Dudek), to appear in Journal of Graph Theory

Simplex stability

(with D. Mubayi), Combinatorics, Probability and Computing 18, 2009, no. 3, 441–454

Set systems with union and intersection constraints

(with D. Mubayi), Journal of Combinatorial Theory, Series B 99, 2009, no. 3, 639–642

Symmetric designs and Self-Dual Codes over Rings

(with S. Dougherty and A. Gulliver), Ars Combinatoria 85, 2007

Higher Weights of Codes from Projective Planes and Biplanes
(with *S. Dougherty*), *Mathematical Journal of Okayama University* 49, 2007

Talks

- May 2010 **On Induced Folkman Numbers**
Math Department, Carnegie Mellon University
- Oct 2009 **Ramsey Theory** (*invited*)
Undergraduate Math Colloquium, Carnegie Mellon University

Conferences Attended

- Mar 2010 *Paul Erdős Lecture Series*
University of Memphis, Memphis, TN
- Mar 2009 *Special Sessions on Graph Theory and on Probabilistic and Extremal Combinatorics*
University of Illinois, Urbana, IL, AMS Meeting #1047
- Mar 2008 *Paul Erdős Lecture Series*
University of Memphis, Memphis, TN
- Oct 2007 *Special Sessions on Algebraic Combinatorics, Extremal and Probabilistic Combinatorics, and Graph Theory*
DePaul University, Chicago, IL AMS Meeting #1030
- May 2007 *Workshop on Extremal Graphs and Hypergraphs*
Carnegie Mellon University, Pittsburgh, PA
- Mar 2007 *Erdős Memorial Lecture and Combinatorics Conference*
University of Memphis, Memphis, TN
- Nov 2006 *Extremal Combinatorics @Illinois (EXCILL)*
University of Illinois, Urbana, IL
- Jan 2005 *Special Sessions in Graph and Design Theory, and Coding Theory*
Joint Mathematics Meetings, AMS Meeting # 1003, Atlanta, GA

Professional Affiliations

- 2004–present American Mathematical Society
- 2004–2007 Association for Women in Mathematics

Teaching Experience

Instructor

- Fall 2010 **Advanced Topics in Discrete Math: Graph Theory**, *Carnegie Mellon University*
Joint instructor with A.Dudek for graduate level advanced topics course
Class size: 8

- Summer 2010 **Introduction to Calculus**, *Carnegie Mellon University, Qatar Campus*
 Primary Instructor in Summer College Preview Program
 Instructed a 3-week course for high school juniors and seniors in Qatar
Class size: 10
- Summer 2010 **Differential Equations**, *Carnegie Mellon University*
Class size: 8
- Summer 2009 **Calculus I**, *Carnegie Mellon University*
Class size: 6
- Summer 2006 **Intermediate Algebra using MyMathlab**, *University of Illinois at Chicago*
 Primary Instructor in Summer Enrichment Workshop Program
Class size: 30
- Fall 2005 & Spring 2006 **Honors Calculus**, *University of Illinois at Chicago*
 Primary Instructor in Emerging Scholars Workshop for Honors Calculus
Class size: 25
- Fall 2010 **College-prep Intermediate Algebra**, *University of Illinois at Chicago*
 Primary Instructor in the TRIO Summer Bridge Experience
Class size: 25

Teaching Assistant

- Fall 2010 & Fall 2007 ***Models and Methods for Optimization***
 Carnegie Mellon University
- Spring 2010 ***Discrete Mathematics***
 Carnegie Mellon University
- Fall 2009 ***Combinatorics***
 Carnegie Mellon University
- Spring 2009 ***Calculus in Three Dimensions (Calculus 3)***
 Carnegie Mellon University
- Spring 2008 ***Calculus I***
 Carnegie Mellon University
- Jan2004–May 2007 ***Intermediate Algebra, PreCalculus, Calculus I, Finite Mathematics for Business***
 University of Illinois, Chicago

Relevant Coursework (Teaching)

- Spring 2010 **College and University Teaching**
 (3 credits) *Eberly Center for Teaching Excellence, Carnegie Mellon University*
 Learned about design of instruction (courses, instructional units, assessments)
 Delivery of instruction in lectures, discussions and other pedagogical formats
 Practiced teaching and received feedback
 Developed drafts of syllabi, handouts, assignments and other instructional materials.

Selected Computer Skills

Math Packages Mathematica, Matlab, Maple
Programming Languages C, C++

Honors

- Fall 2008 Fellowship at Department of Mathematical Sciences, Carnegie Mellon University
- 1998 Awarded *Merit Certificate in Mathematics* by the Central Board of Secondary Education, India
- 1996 Participant in the *National Science Talent Search Examination, India*, at the national level

Social Activities

Active lender of microfinance loans with *KIVA*
Volunteer at *Animal Rescue League of Western Pennsylvania, Pittsburgh*
Member and volunteer at *Child Relief and You, India*
Sponsor of a child with *Children International*

References

ANDRZEJ DUDEK, *Carnegie Mellon University*
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TOM BOHMAN, *Carnegie Mellon University*
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STEVEN DOUGHERTY, *University of Scranton*
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RUSSELL WALKER, *Carnegie Mellon University*
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