

Jeong-Hyun Kang

Employment and Education

- ASSISTANT PROFESSOR, Fall 2006 to present
Department of Mathematics, University of West Georgia
 - POSTDOCTORAL FELLOW, Fall 2004 – Spring 2006
Department of Mathematics, University of Central Florida
 - PH.D MATHEMATICS, 2004
University of Illinois at Urbana-Champaign
Covering and coloring of metric spaces, and $L(2, 1)$ -labeling of graphs
Advisor: Professor Zoltán Füredi
- TEACHING ASSISTANT, RESEARCH ASSISTANT, 1997–2004

Teaching Experience

- ASSISTANT PROFESSOR, University of West Georgia, Fall 2006 – Present
Applied Linear Algebra (Graduate course), *Number Theory* (Advanced undergraduate), *Calculus III*, *Calculus I*, *Business Calculus*, *College Algebra*
- POSTDOCTORAL FELLOW, University of Central Florida, Fall 2004 – Spring 2006
Abstract Algebra (Graduate course), *Number Theory* (Advanced undergraduate), *Calculus I*
- TEACHING ASSISTANT, University of Illinois at Urbana-Champaign, Fall 1997 – Spring 2004
 - Instructor for the following courses with full responsibility:
Multivariable Calculus, *Introductory Linear Algebra*, *Calculus II*, *Calculus for Social Scientists*
 - TA for the following advanced undergraduate courses with various responsibilities, including grading, office hours, and occasional lectures:
Probability, *Linear Algebra*, *Combinatorics*, *Graph Theory*
- Co-author of proposal for graduate course on *Discrete and Convex Geometry* in May 2003.
- Nominee for the department *Teaching Award* in Spring 2004.

Research Interests

My research interests are in the realm of discrete mathematics. I have worked on a long standing problem in combinatorial geometry related to coloring of metric spaces and its variations, using

methods from discrete geometry and probabilistic combinatorics. I also have worked on a distance graph problem on the set of integers that has a flavor of combinatorial number theory. I also have various results on a central conjecture in $L(2, 1)$ -labeling of graphs, a generalization of ordinary graph coloring motivated by the channel assignment problem.

In addition, I am interested in and working on other problems from combinatorial geometry, extremal graph theory, combinatorial number theory, and intersecting set-system.

Papers and Publications

- DISTANCE GRAPH ON \mathbb{Z}^n WITH ℓ_1 -NORM, *Theoretical Computer Science, Special issue on Combinatorics of the Discrete Plane and Tilings*, 319 (2004), 357–366. (with Z. Füredi)
- COVERING n -SPACE BY CONVEX BODIES AND ITS CHROMATIC NUMBER, *Discrete Mathematics, Special issue in honor of M. Simonovits*, 308 (2008), 4495–4500. (with Z. Füredi)
- $L(2,1)$ -LABELING FOR HAMILTONIAN GRAPHS OF MAXIMUM DEGREE 3, *SIAM Journal on Discrete Mathematics*, 22 (2008), 213–230.
- DISTANCE GRAPHS— A p -ADIC APPROACH, submitted. (with H. Maharaj)
- ON LARGENESS AND ACCESSIBILITY, submitted.
- $L(2,1)$ -LABELING AND PACKING OF BIPARTITE GRAPHS, preprint. (with Z. Füredi)
- $L(2,1)$ -LABELING FOR KNESER GRAPHS, preprint.
- SECURITY NUMBER FOR KNESER GRAPHS, preprint.
- DISTANCE GRAPHS ON THE INTEGER LINE, in preparation. (with H. Maharaj)
- $L(2,1)$ -LABELING FOR 3-REGULAR GRAPHS, in preparation. (with D.B. West)
- RECTILINEAR EQUILATERAL SETS IN \mathbb{R}^n , in preparation.
- PERSISTENCE OF A NUMBER, in preparation. (with B. Landman)

Grant Applications

- NSF, DMS—Algebra, Number theory, and Combinatorics, 2008, pending
- NSA, Young investigator’s grant, 2008, pending

Conference Presentations

- AMS SPECIAL SESSION ON GRAPH THEORY, *Invited talk*, National Meeting, San Diego, California, Jan. 2008
- INTEGERS CONFERENCE, Carrollton, Georgia, Oct. 2007
- AMS SESSION ON GRAPH THEORY, *Invited talk*, Central Section Meeting, Chicago, Illinois, Oct. 2007
- AMS NATIONAL MEETING, San Antonio, Texas, Jan. 2006
- MIDSUMMER WORKSHOP ON EXTREMAL COMBINATORICS, *Invited talk*, Charles University, Prague, Czech Republic, Aug. 2005
- AMS NATIONAL MEETING, Phoenix, Arizona, Jan. 2004
- 17TH MCCCC (MIDWEST CONFERENCE ON COMBINATORICS, CRYPTOGRAPHY, AND COM-

PUTING), Las Vegas, Nevada, Nov. 2003

- AMS SPECIAL SESSION IN GRAPHS AND DIGRAPHS, Joint Central and Western Section Meeting, Boulder, Colorado, Oct. 2003
- CONFERENCE ON EXTREMAL GRAPH THEORY, DEDICATED TO THE 60TH BIRTHDAY OF MIKLOS SIMONOVITS, Rényi Institute of Hungarian Academy of Sciences, Balaton, Hungary, June 2003
- MIGHTY MEETINGS (MIDWEST GRAPH THEORY CONFERENCE), Valparaiso, Indiana, Sep. 2003; Normal, Illinois, Sep. 2002

Seminar/Colloquium Talks

- GEORGIA STATE UNIVERSITY, *Invited talk*, Nov. 2007
- UNIVERSITY OF WEST GEORGIA, Fall 2006 – present (Several talks)
- UNIVERSITY OF FLORIDA, *Invited talk*, March 2006
- UNIVERSITY OF CENTRAL FLORIDA, Fall 2004 – Spring 2006 (Several talks)
- ILLINOIS STATE UNIVERSITY, *Invited talk*, Feb. 2004
- RÉNYI INSTITUTE OF HUNGARIAN ACADEMY OF SCIENCES, Budapest, Hungary, April 2003, Nov. 2000
- UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, 2000–2003 (Several talks)

Academic Services

- REFEREE FOR THE JOURNALS : Discrete Mathematics, Information Processing Letters, Integers–Electronic Journal of Combinatorial Number Theory Theoretical Computer Science, Networks
- CHAIR, AMS Session on Combinatorics, National Meeting, Phoenix, Arizona, Jan. 2004
- CO-HOST, Integers Conference, Carrollton, Georgia, Oct. 2007

Professional Societies

- American Mathematical Society (AMS)
- Association for Women in Mathematics (AWM)
- Society for Industrial and Applied Mathematics (SIAM)