VITA

I. ACADEMIC/PROFESSIONAL BACKGROUND

A. Name: Xingde Jia Title: Professor

B. Education Background

Degree	Year	University	Major
Ph.D.	1990	Graduate Center of the City University of New York	Mathematics
B.S.	1982	Qufu Normal University	Mathematics

C. University Experience

Position	University	Dates
Professor of Mathematics	Texas State University	September 1996 – present
Associate Professor of Mathematics	Texas State University	September 1993 – August 1996
Assistant Professor of Mathematics	Texas State University	September 1990 – August 1993
Instructor of Mathematics	Fordham University	September 1989 – August 1990

D. Relevant Professional Experience

Position	Entity	Dates
Visiting Scholar/Consultant	AT&T Bell Labs 600 Mountain Ave, Murry Hill, NJ 07974	1997 Summer

II. TEACHING

A. Teaching Honors and Awards

None

B. Courses Taught

I have taught a wide range of courses over the past 30 plus years at Texas State University from entry level undergraduate courses to advanced doctoral courses. Many of the courses I taught are in the area of discrete mathematics. Here is a partial list of courses I taught.

- Math 1315: College Algebra
- Math 1319: Math for business, I
- Math 1329: Calculus for business
- Math 2317: Precalculus
- Math 2321: Calculus for Life Science, I
- Math 2328: Elementary Statistics
- Math 2331: Calculus for Life Science, II
- Math 2358: Discrete Math I
- Math 2471: Calculus I

- Math 2472: Calculus II
- Math 3325: Number Systems
- Math 3373: Calculus III
- Math 3377: Linear Algebra
- Math 3380: Analysis
- Math 3398: Discrete Math II
- math 4307: Abstract Algebra
- Math 4350: Combinatorics
- Math 5307: Morden Algebra
- Math 5313: Ring Theory
- Math 5314: Number Theory
- Math 5336: Topics in Applied Mathematics
- Math 5350: Combinatorics
- Math 5358: Discrete Mathematics
- Math 5399A/B: Master's Thesis
- Math 7307: Abstract Algebra, I
- Math 7331: Combinatorics
- Math 7371A: Advanced Graph Theory
- Math 7371C: Combinatorial Number Theory
- Math 7371H: Combinatorial Networks
- Math 7386: Independent Study

C. Graduate Theses/Dissertations, Honors Theses, or Exit Committees (if supervisor, please indicate) (Partial List)

- Weidong Su, Master's Thesis Advisor
- David F. Swarbrick, Master's Thesis Advisor
- Joni Schneider, Master's Thesis Advisor
- Zhaochen Song, Master's Thesis Advisor
- Weili Yao, Post-Doctoral Fellow, Advisor
- Jason High, Doctoral Committee member
- Served on many Master's thesis committees

D. Courses Prepared and Curriculum Development

1. Courses Prepared (Partial List)

- Math 4350: Combinatorics – This is a course for undergraduates
- Math 5358: Discrete Mathematics – This is course for graduates in both Mathematics and Computer Science
- Math 7331: Combinatorics – This is a doctoral level course
- Math 7371: Topics in Advance Mathematics – This is a topics courses which contains various different topics, I developed a few topics, and other faculty also contributed some other topics for this topics course.

2. Curriculum Development

- Master's Degree Program in Applied Mathematics – I was the main author of the program proposal. The program has been approved.
- Doctoral Program in Mathematics Education, I was the committee chair working on the program proposal for several years, and authored the first few drafts of the program proposal. The program has been approved.
- Participated in other curriculum development

E. Funded External Teaching Grants and Contracts

None

F. Submitted, but not Funded, External Teaching Grants and Contracts

None

G. Funded Internal Teaching Grants and Contracts

Received teaching releases for developing the doctoral program in Mathematics Education.

H. Submitted, but not Funded, Internal Teaching Grants and Contracts

None

I. Other

None

III. SCHOLARLY/CREATIVE

A. Works in Print (including works accepted, forthcoming, in press)

1. Books (if not refereed, please indicate)

a. Scholarly Monographs

- *Combinatorial Networks*, under preparation (with D. F. Hsu).

b. Textbooks

None

c. Edited Books

- *Combinatorial Networks*, a special issue of the *Journal of Interconnection Networks*, Vol 10, No 3, 2009. (Guest Co-Editor)
- *Extremal Cayley Digraphs*, *IEEE conference proceeding series: ISPAN 2011*, (Co-editor, a peer reviewed proceedings)

d. Chapters in Books

- Some Detectability Issues in Sensor Networks, **Chapter 3** of *Sensor and Ad-Hoc Networks: Theoretical and Algorithmic Aspects*, Springer, 2008, (ISBN: 978-0-387-77319-3). (with W. Peng and E. D. Reeves)

e. Creative Books

None

2. Articles

a. Refereed Journal Articles (Selected)

[1] Extremal Bases for Finite Cyclic Groups, *SIAM Journal of Discrete Mathematics*, Vol 31, No.2 (2017), 796–804.2013 (Joint with Jian Shen)

[2] Extremal Cayley Digraphs, *IEEE conference proceeding series: ISPAN 2011* (a peer reviewed proceedings)

[3] On the exact order of asymptotic bases and bases for finite cyclic groups, *Additive Number Theory*, D. Chudnovsky and G. Chudnovsky (editors), Springer 2010, 179–193.

[4] *Combinatorial Networks*, a special issue of *Journal of Interconnection Networks*, Vol. 10, Issue 3 (2009). (Guest-Editor, joint with L-H. Hsu)

[5] On wide diameter of Cayley digraphs, IEEE conference proceeding series: ISPAN 2008. (Peer reviewed proceedings)

[6] Some Detectability Issues in Sensor Networks, **Chapter 3** of *Sensor and Ad-Hoc Networks: Theoretical and Algorithmic Aspects*, Springer, 2008, (ISBN: 978-0-387-77319-3). (With W. Peng and E. D. Reeves).

[7] Extremal Cayley Graphs of Finite Cyclic Groups, *Journal of Interconnection Networks*, Vol. 9(2008), 73–82. (joint with J. Lee and E. Sheu).

[8] On a flow-related domination problem, *Congressus Numerantium*, **186**(2007), 41–48.

[9] Energy Balancing Routing Algorithms in Wireless Sensor Networks Connected as Grids, *Proceedings of the International Conference on Wireless Algorithms, Systems and Applications (WASA)*, August 2007, 19–25. (with X. Chen)

[10] Detectability in Incomplete Sensor Networks, In Proc. of *International Workshop on Theoretical and Algorithmic Aspects of Sensor and Ad-hoc Networks* (WTASA'07), June 2007, 106–118. (With W. Peng and E.Reeves)

[11] On a traffic sensing problem, *Journal of Interconnection Networks*, **7**(2006), 63–73. (with D. F. Hus and W. Gu)

[12] On random points in the unit disk, *Random Structures and Algorithm*, **29**(2006), 14–25. (with R. Ellis and C. H. Yan)

[13] Chords in graphs, *Austral. J. Combinatorics*, 32(2005), 117-124. (with W. Gu and H. Wu)

[14] On a traffic control problem, IEEE conference proceeding series: ISPAN 2005. (with W. Gu)

[15] Wireless Networks and Random Geometric Graphs. IEEE conference proceeding series: ISPAN 2004: 575–580.

[16] Additive bases and extremal problems in groups, graphs, and networks, *Utilitas Mathematica*, 66(2004), 61–91. (with D. F. Hsu)

[17] Additive bases and extremal problems groups, graph and network designs, *DIMACS Tech. Report*, 2002-02, 2002. (with D. F. Hsu)

[18] Prefix Routing in Wireless Ad-Hoc Networks of Mobile Stations, Proceedings of the ISCA 15th International Conference on Parallel and Distributed Computing Systems (PDCS-2002), 66–71, Louisville, Kentucky, September 2002. (with X. Chen and J. Wu)

[19] An Upper Bound for a Mobile Ad-Hoc Wireless Network, *the Proceedings of International Conference on Parallel and Distributed Processing Techniques and Applications*, June 2001, 1617-1620. (with X. Chen and J. Shen)

[20] Package Routing Algorithms in Mobile Ad-Hoc Wireless Networks, the *Proceedings of the 2001 ICPP workshops on wireless networks and mobile computing*, September 2001, 485–490. (with X. Chen)

[21] Some nonexistence results on perfect addition sets, *Congressus Numerantium*, 134(1998), 131–137. (with D. F. Hsu)

[22] Minimal bases and g-adic representations of integers. In *Number theory (New York, 1991–1995)*, 201–209. Springer, New York, 1996.

[23] Finite graphs and the number of sums and products. In *Number theory (New York, 1991–1995)*, 211–219. Springer, New York, 1996. (with M. B. Nathanson)

[24] $B_h[g]$-sequences with large upper density. *J. Number Theory*, 56(1996), 298–308.

[25] On diameter of permutation graphs, *Congressus Numerantium*, 121(1996), 138–146.

[26] Some extremal problems on cycle distributed graphs, *Congressus Numerantium*, 121(1996), 216–222.

[27] Cayley digraphs of finite cyclic groups with minimal average distance, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 21(1995), 229–250.

[28] Extremal Cayley digraphs of finite cyclic groups. *SIAM J. Discrete Math.*, 8(1995), 62–75.

[29] Addition theorems for σ-finite groups, *Contemp. Math.*, 166 (1994), 275–284. (with M. B. Nathanson)

[30] Representation of finite groups as short products of subsets, *Bull. Austral. Math. Soc.*, 49(1994), 463–467.

[31] On B_{2k}-sequences. *J. Number Theory*, 48(1994), 183–196.

[32] Extremal problems in the construction of distributed loop networks, *SIAM J. Discrete Math.*, 7(1994), 57–71. (with D. F. Hsu)

[33] Sheng Chen and Xing De Jia. Undirected loop networks, *Networks*, 23(1993), 257–260.

[34] Some remarks on minimal bases and maximal nonbases of integers. *Discrete Math.*, 122(1993), 357–362.

[35] On finite Sidon sequences. *J. Number Theory*, 44(1993), 84–92.
[36] Thin bases for finite nilpotent groups. *J. Number Theory*, 41(1992), 303–313.
[37] Extremal bases for finite cyclic groups. *J. Number Theory*, 41(1992), 116–127.
[38] On the order of subsets of asymptotic bases. *J. Number Theory*, 37(1991), 37–46.
[39] Thin bases for finite abelian groups. *J. Number Theory*, 36(1990), 254–256.
[40] A simple construction of minimal asymptotic bases. *Acta Arith.*, 52(1989), 95–101.
[41] Representatives for finite sets. *Proc. Amer. Math. Soc.*, 107(1989), 347–351.
[42] On B_6-sequences. *Qufu Shifan Daxue Xuebao Ziran Kexue Ban*, 15(1989), 7–11.
[43] Simultaneous systems of representatives for finite families of finite sets. *Proc. Amer. Math. Soc.*, 104(1988), 33–36.
[44] On the distribution of a B_2-sequence. *Qufu Shifan Daxue Xuebao Ziran Kexue Ban*, 14(1988), 12–18.
[45] On a combinatorial problem of Erdős and Nathanson. *Chinese Ann. Math. Ser. A*, 9(1988), 555–560.
[46] Exact order of subsets of asymptotic bases in additive number theory. *J. Number Theory*, 28(1988), 205–218.

b. Non-refereed Articles

None

3. Abstracts

None

4. Reports

None

5. Book Reviews

None

6. Other Works in Print

Many reviews of mathematical research articles appeared in *Mathematical Reviews* by American Mathematical Society.

B. Works not in Print

1. Papers Presented at Professional Meetings (Selected)

- On a traffic control problem, Southeastern Conference on Graphs, Combinatorics, and Computer Science, Florida Atlanta University, March 2007.
- Cayley Graphs and Interconnection networks, Southeastern Conference on Graphs, Combinatorics, and Computer Science, Florida Atlanta University, March 2003.
- Florida Atlanta University, Southeast Conference on Graph Theory and Computing, Florida, March 2002.

- Louisiana State University, Southeast Conference on Graph Theory and Computing, Baton Rouge, March 2001.
- On a Problem of Rohbach on Finite Groups, Southeastern Conference on Graphs, Combinatorics, and Computer Science, Florida Atlanta University, March 2000.
- Rutgers University DIMACS Number Theory Workshop, New Jersey, Feb. 1996.
- Rutgers University DIMACS Computer Networks Workshop, New Jersey, February 1995.
- Many Seminar Talks at Texas State University.

2. Creative works

None

3. Invited Talks, Lectures, and Presentations (Selected)

- *From A Postage Stamp Problem To Information Networks*, Invited talk at Fordham University, March 8, 2019.
- Cayley Networks, Fordham University, August 12, 2015
- *Combinatorial Networks*, Fordham University, May 22, 2015.
- Combinatorial Networks, Invited talk at Wuhan University, December 25, 2014
- Extremal bases, Invited Talk at Shandong University, May 19, 2014.
- On Wide Diameter of Cayley Graphs, Fordham University, May 30, 2011.
- Extremal Cayley digraphs for finite abelian groups, ISPAN 2011, August 25, 2011, Dalian, China.
- Additive Bases and Distributed Networks, Fordham University, June 2010.
- Combinatorial Networks, Fordham University, May 2009.
- On Wide Diameter of Cayley Graphs, ISPAN 2008. Sydney, Australia, May 7–9, 2008.
- On Traffic Related Domination Problems in Graph Theory, Fordham University Computer and Information Science, May 2007.
- Talks in Computer Science and Mathematics Departments at Texas State University in 2007.
- Some Extremal Bases for Finite Cyclic Groups, *The Conference on Combinatorial and Additive Number Theory*, New York City University Graduate Center, New York, NY, May 23-25, 2007.
- On a Traffic Sensing Problem, *Texas State University Computer Science Departmental Seminar*, San Marcos, Texas, November 2006.
- Exact Order of Asymptotic Bases, *The Conference on Combinatorial and Additive Number Theory*, New York City University Graduate Center, New York, NY, May 18–20, 2006.
- Combinatorial Problems on Finite Groups, Center for Discrete Mathematics, Nankai University, Tianjin, China, May 2005.
- On a Traffic Control Problem, Beijing Jiaotong University, Beijing, China, May 2005.
- On a Traffic Sensing Problem, Fordham University, Bronx, New York, May 2005.

- Random Points in a Unit Disk, Conference on Combinatorial and Additive Number Theory, May 2004.
- Some open problems in combinatorial number theory, Shandong University, Jinan, China, December 2003.
- From the Postage Stamp Problem to the Design of Communication Networks, Trinity University, San Antonio, Texas, November 2003.
- Invited talk, Workshop on networks, New York, New York, April 2001.
- On a Problem of Rohrbach, Shandong University, Jinan, China, June 2000
- Workshop on networks: Architecture, Algorithms, and Applications, Fordham Univ., 113 W. 60th St., New York, NY 10023. March 2000.
- Cayley Graphs and Computer Network Design, West Virginia University, December 1999.
- Fordham University, Bronx, New York, March 1998.
- The Postage Stamp Problem and Computer Networks, New York Academy of Science, New York, Feb. 1996.
- New York Number Theory Conference, The Graduate Center of the City University of New York, New York City, March 1995.
- International Conference on Analytic Number Theory, University of Illinois, May 1995.

4. Consultancies

- AT&T Bell Labs, 600 Mountain Ave, Murry Hill, NJ 07974, 1997 Summer

5. Workshops (Selected)

- Special Session Chair, The 6th IEEE International Symposium on Cloud and Service Computing(IEEE SC2 2016), December 8–10, 2016, Fiji
- Publicity Chair for DataCom 2015 2015 International Conference on Big Data Intelligence and Computing, December 19–21, 2015, Chengdu, China
- Program Track Chair for the conference ISPAN 2014, Chengdu, China, December 19–21, 2014
- Organizing Committee Chair for ISPAN 2012, San Marcos, Texas, December 13–15, 2012.
- Session Chair at ISPAN 2008, Sydney, Australia, May 7–9, 2008.
- Steering Committee member for the Annual CombinaTexas conference in combinatorics and graph theory. 2007–2010.
- Conference Co-Chair of the Conference on Combinatorial and Additive Number Theory, CUNY Graduate Center, New York, New York, May 18–21, 2005.
- Conference Co-Organizers of CombinaTexas 2003–2005. CombinaTexas is an annual Southern US regional conference in combinatorics and its applications.
- Program Committee member of *World Conference on Systemics, Cybernetics and Informatics*, Orlando, Florida. 2002–2006. Also Chaired an invited session at the 2002 conference.

6. Other Works not in Print

a. Works "submitted" or "under review"

None

b. Works "in progress"

- G. Grekös and X. Jia, A covering problem in additive number theory, *under preparation.*
- D. F. Hsu and X. Jia, Combinatorial Networks, *under preparation.*

C. Grants and Contracts

1. Funded External Grants and Contracts

- **2007–2015, 2019**: Summer Research and Travel funds from Fordham Research Foundation ($1400–$3000 plus travel expenses, most of the years)
- **2011–2012**: Key staff member of an NSF REU grant.
- **2005**: Received funding from NSF and the Number Theory Foundation for organizing the *2005 Conference on Combinatorial and Additive Number theory* (CANT 2005) in New York City, May 18–21, 2005. (As one of two main organizers)
- **2003**: *National Science Foundation* grant for holding the CombinaTexas Conference, $33,000 (Key Staff)
- **1994–1995**: National Science Foundation grant for working on computer network designs (Co-PI) ($66,000)

2. Submitted, but not Funded, External Grants and Contracts

- **2006**: AMS-NSF grant proposal: CBMS lecture series at Texas State University, (Co-PI), not funded.

3. Funded Internal Grants and Contracts

- **1991–2005**: Texas State University Faculty Research Enhance Grants, **8** times $3000–$6752 each.

4. Submitted, but not Funded, Internal Grants and Contracts

None

D. Fellowships, Awards, Honors

- **2006**: Department Award for Excellence in Research
- **1995**: Department Award for Excellence in Research
- **1993**: Texas State University Presidential Award for Excellence in Research

IV. SERVICE

A. Institutional

1. University

- Graduate Fellowship Committee, member, 2003–2007.
- *University Lecturer Committee* member/chair, 2002–2005.
- *University Curriculum Committee* member, 1999–2002.

2. College

- Math representative for College, University Enhancement Research Grant, 2020–2021
- College Curriculum Committee Member, 2020.
- *College of Science Review Group* alternative member, 1998–2001, 2007.
- *College of Science Research Grant Review Group* member 1994/1995.
- *SWT Presidential Research Award Review Group* member, 1993/1994.

3. Department/School

- Department Curriculum Committee, Member 2017–2020; Chair, September 2020–2021
- Discrete Mathematics Committee (contact person for Computer Science), Chair, 2008–present. Responsible for maintaining syllabi of Discrete Math I & II and the graduate discrete math.
- Computer Science Liaison (Math 2358, Math 3398), Chair, 2015–2016
- Doctoral Graduate Advisor, Fall 2012 – Spring 2014.
- Chair of the Graduate Student Recruitment subcommittee, 2011–2013.
- Member of the Graduate Alignment Committee, 2011–2014.
- Chair of the Discrete Mathematics Committee (contact person for Computer Science), 2008–present.
- Member of the Graduate Student Open House committee (of the Ph.D. Committee), member, 2011.
- Department Budget committee, member 2005–2020, Chair 2015
- Departmental Promotion Document committee member 2007–2010.
- Curriculum Committee, Member 2005–2015.
- Ph.D. Committee, Chair 1998–2004, Member 2004–2014.
- Committee on Committee, member, 2005–2010.
- Recruitment Committee, Member/Chair 1996–2001, 2008–2009

- Junior Faculty Mentoring, student advising, and Master's Thesis advising.
- Industrial Advisory Board Committee, member 1999–2006.
- Departmental Colloquium Committee, 1990–2000, 2005–2014.
- New program development involvement
  - Major writer for the Ph.D. proposal (Math Ed part approved, Math part has not been submitted)
  - Master's degree in Applied Mathematics (approved).
  - Participated in writing the proposals for BS in Applied Mathematics (approved).
  - Participated in writing the proposals for BS in Scientific Computing (not approved)
  - Helped realign the graduate courses (undergoing project of the department). The goal of this action is to adjust graduate courses to better meet the needs.
  - Advanced Mathematics Education track in the Ph.D. program (under preparation)
- Developed several new courses, including undergraduate level, master's level, and doctoral level courses, including (only a few examples): Math 7371, math 7331, math 5358, math 4350, etc.

4. Professional

- Mentored visiting scholar Dr. Weili Yang, Shanghai University, Associate Professor of Mathematics, September 2014–September 2015.
- Host for many visiting scholars, including D. F. Hsu (Fordham University), M. Nathanson (CUNY Graduate Center), G. Grekös (France), C. Y. Wang (China), C. Yan (Texas A&M), etc.
- Editor for different Journals including *Journal of Interconnection Networks*, November 2011–2022.
- Guest Editor for the *Journal of Interconnection Networks*, 2009
- Refereed many research articles for many professional journals in mathematics and computer science, including the *Journal of Number Theory*, *Discrete Mathematics*, *SIAM Journal on Discrete Mathematics*.
- Reviews for *Mathematical Reviews* by American Mathematical Society.
- Reviewed research grant proposals for different agencies and institutes.
- Referee/Reviewer for promotion/tenure from other institutions.

B. Community

- Mentor for Texas State University Chinese Student and Scholar Association, 2011–2018
- Teaching a math class for 4th–7th graders at an Austin Weekend School, Fall 2011. (one hour every Sunday).

- Teaching a math class for 8th graders at an Austin Weekend school, Spring 2007. (one hour every Sunday).
- Siemen's Research Project supervision, 2005 Regional Semi-finalists; 2006 Regional Finalists.
- *Mathematics for Talent Youth*, an honors mathematics class for young students at the Austin Great Wall Chinese School, 2000–2002.
- *SAT Preparation Class* at the Austin Great Wall Chinese School, 2002. This is a mathematics preparation class for high students to participate in the SAT test.

C. Service Honors and Awards

- **2001**: Department Award for Excellence in Service.

D. Service Grants and Contracts

None

1. Funded External Service Grants and Contracts

None

2. Submitted, but not Funded, External Service Grants and Contracts

None

3. Funded Internal Service Grants and Contracts

None

4. Submitted, but not Funded, Internal Service Grants and Contracts

None