

## Aihua Li, Ph.D.

August 2014

### PERSONAL INFORMATION

Department of Mathematical Science  
Montclair State University  
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### EDUCATION

<u>Ph.D. Mathematics</u>	University of Nebraska-Lincoln	1994
<u>M.S. Mathematics</u>	University of Nebraska-Lincoln	1991
<u>M.S. Mathematics</u>	University of Science and Technology	1984
<u>B.S. Mathematics</u>	Beijing, China	1982

Ph.D. Advisor: Sylvia Wiegand

Ph. D. Thesis: Posets of Prime Ideals and Prime Filtrations of Finite Generated Modules

### PROFESSIONAL EXPERIENCE

Montclair State University, Department of Mathematical Science

Professor September 2011 – present

Associate Professor September 2004 – August 2011

Loyola University New Orleans, Department of Mathematics & Computer Science

Associate Professor August 2000 – July 2004

Assistant Professor August 1995 – August 2000

Virginia Bioinformatics Institute at Virginia Tech, Virginia Tech - Department of Math.

Visiting Research Associate Professor September 2002 – May 2003

Bismarck State College, Department of Mathematics

Assistant Professor August 1994 – July 1995

University of Science & Technology Beijing

Department of Mathematics & Mechanics

Joint Professor 2003 – present

Instructor Dec. 1984 – Jan. 1989

### HONORS AND AWARDS

- Best Poster Award, joint with Pamela Gurreon, Zeyad Boodoo, Patricia Dorn, International Congress of Women Mathematicians (ICWM) 2041 Poster presentation, Seoul, Korea, August 2014.
- Mentoring Award, Division of Mathematical Science and Computer Science, Council on Undergraduate Research, June 2013.
- University Distinguished Scholar Award for 2013-2014 academic year, Montclair State University, 2013;
- Outstanding Service Award, Mathematical Association of America – New Jersey Section and GSUMC, April 2013;
- Sokol Research Award for Faculty and Student Research, CSAM, MAU, 2009/2010, 2007/2008;
- General Membership, Mathematical Sciences Research Institute (MSRI), May 2003.
- Certificate of Honor for Support and Encouragement to Graduating Students, Loyola Senior Class & Student Government Association, 2001.
- Teaching Recognition Award, February 1992, Parent Association/Teaching Council, University of Nebraska-Lincoln.

### ***Awards of Mentored Students***

- Pamela Guerron, Zeyad Boodoo, Patricia Dorn, Aihua Li, “Applications of Graph Connectivity Indices in DNA Data Analysis”, Best Poster Award, Poster Competition in The International Congress of Women Mathematicians 2014, Seoul, Korea, August 2014.
- Zeyad Boodoo and Pamela Guerron, “Applications of Graph Connectivity Indices in DNA Data Analysis”, Second Place Award, The 11<sup>th</sup> Garden State Undergraduate Mathematics Conference Student Poster Presentation Session, Glassboro, New Jersey, April 2014.
- William P. Burke, “Relationships and Properties of Product and Sum Connectivity Indices of Certain Graphs”, Second place prize (\$500) in the TechLaunch CSAM Science Poster Competition, MSU Student Research Symposium, April 2013.
- William P. Burke, “Relationships and Properties of Product and Sum Connectivity Indices of Certain Graphs”, Outstanding Award (top three) in GSUMC (Garden State Undergraduate Mathematics Conference) Undergraduate Poster Competition, Felician College, April 2013.
- Katrina Bandeli, Sum Indices and Product Indices of Single Cyclohexane Chemical Compounds, First Prize, GSUMC Garden State Undergraduate Mathematics Conference) Undergraduate Poster Competition, March 2012.
- Kale Evens, “Study of GCDs of Solutions to Diophantine Equations”, Second Place Award in the undergraduate poster competition of Garden State Undergraduate Mathematics Conference held in New Jersey, April, 2010.
- Elizabeth Arango, “Behavior of DS-divisors of Positive Integers”, won “Outstanding Presentation Award” in the MAA MathFest Undergraduate Student Talk Sessions, Madison, Wisconsin, August, 2008;
- Cihan Karabulut, “Solving Diophantine Equations Using a Partial Differential Equation” winning a prize in the Undergraduate Student Poster Competition held in the AMS/MAA National Meeting in San Diego, 2008;
- Nicole Robichaux, “DS-Divisor of Positive Integers”, First Place and a monetary prize, MAA LA-MS Section Annual Meeting student paper competition, 2003;
- Nicole Robichaux, “DS-Divisor of Positive Integers” winning the Rev. John H. Mullahy Award, by Sigma Xi, the Scientific Research Society, New Orleans Chapter, 2003.

### **GRANTS AWARDED (since 2000)**

1. Association for Women Mathematicians (AWM) - NSF Travel Award, \$3000, support to attend International Congress of Women Mathematicians held in Seoul, Korea, August 2014;
2. NREUP (National Research Experience for Undergraduates Program) “Summer REU at MSU”, Joint by NSF (DMS-1156582 and DMS-1359016) through MAA, \$27,300, 2014;
3. “Developing International Collaborations with TU-Graz, Austria.” Global Education Center Grant, \$2100, 2013.
4. “The 2014 Garden State Undergraduate Mathematics Conference (GSUMC)”, MAA “Regional Undergraduate Mathematics Conferences Program” funded by NSF DMS-0846477, DMS-0846477 (CFDA No. 47.049), \$2660, Awarded May 2013.
5. NREUP (National Research Experience for Undergraduates Program) “Summer REU at MSU”, Joint by NSA (H98230-13-1-0270) and NSF (DMS-1156582) through MAA, \$27,300, 2013;
6. “Garden State Mathematics Conferences 2013-2014”, \$16,592.00, NSA, awarded 2012.
7. “The 2013 Garden State Undergraduate Mathematics Conference (GSUMC)”, MAA “Regional Undergraduate Mathematics Conferences Program” funded by NSF DMS-0846477, DMS-0846477 (CFDA No. 47.049), \$2800, Awarded May 2012.
8. MAA/NSF Regional Undergraduate Mathematics Conference Grant for GSUMC 2011 (Co-PI), NSF Grant DMS-0846477, \$1200, 2010.
9. NSF CURM (Center for Undergraduate Research in Mathematics) mini-grant, \$16,500, 2009/2010;
10. MSU Separately Budgeted Research Funding, FY 2009/2010;

11. Award for Undergraduate Research, Investors Savings Bank Charitable Foundation/CSAM, \$3500, 2008/2009;
12. NREUP (National Research Experience for Undergraduates Program) “Summer REU at MSU”, NSF, NSA, Moody Foundation, Summer 2008;
13. NSF CURM (Center for Undergraduate Research in Mathematics) mini-grant, 2007/2008;
14. NSF Conference Grant: Nebraska Commutative Algebra Conference 2005, (Co-PI), May 2005.
15. Collaborative Research Grant for Women, Association for Women in Mathematics (AWM), Supported by the University of North Texas and NSF through Ruth Michler’s POWRE grant, 2004.
16. Board of Regent Supporting Fund, “Applications of Gröbner Basis Theory,” Louisiana State, 2000--2003.

### **REFEREED PUBLISHED ARTICLES**

1. Aihua Li and Ralph Tucci, “The Cayley Graph Built Upon the Semigroup of Left Ideals of a Ring”, *Journal of Shanghai Normal University*, to appear;
2. Francesca Pizzigoni and Aihua Li, “Design of Knapsack Cryptosystems using Fibonacci Numbers,” *Proceedings of the 2014 International Conference on Computer, Network Security and Communication Engineering (CNSCE2014)*, DEStech Publications, Inc., Lancaster, PA, USA, 2014.
3. Sarita Nemani, Aihua Li, “Interlace Polynomials of  $n$ -claw Graphs”, *Journal of Combinatorial Mathematics and Computational Computing*, Vol. 88, Feb., 2014.
4. Aihua Li and Ralph Tucci, “Zero Divisor Graphs of Upper Triangular Matrix Rings”, *Communications in Algebra*, Vol. 41 (12), 4622–4636, 2013.
5. Michael K. Wilson, Aihua Li, “Solving Second Order Discrete Sturm-Liouville BVP Using Matrix Pencils, *Springer Proceedings in Mathematics & Statistics*, Springer, New York, Vol. 41, Chapter 20, 201–214, 2013.
6. Xiao-dan Zhang, Ya-li Hong, and Aihua Li, “Optimization of axial symmetrical FGM under the transient-state temperate field”, *International Journal of Minerals, Metallurgy and Materials*, Vol. 19, No. 1, Pages 59-63, Jan 2012.
7. Elizabeth Arango, Aihua Li, “The Behavior of DS-divisors of Positive Integers”, *International Journal of Pure and Applied Mathematics*, Vol. 70, No. 6, 2011.
8. Aihua Li, Edward Mosteig, “On the Construction of Explicit Solutions to the Matrix Equation  $X^2AX = AXA$ ”, *Electronic Journal of Linear Algebra*, Vol. 21, pp. 159-170, 2010.
9. Aihua Li, Qing Wu, “Interlace Polynomial of Ladder Graphs”, *Journal of Combinatorics, Information, and System Science*, vol. 35 No. 1-2, pages 261–273, 2010.
10. Zhang Xiaodan, Wang Fei, Deng Qin, Aihua Li, “Construction and Applications of Multivariate Separators” (in Chinese), *Acata Mathematica Applicatae Sinica*, Vol. 33 No. 2, March 2010.
11. Zhang Xiaodan, Zhao Pin-Dong, Aihua Li, “Construction of a New Fractional Chaotic System and Generalized Synchronization”, *Commun. Theor. Phys.* Vol. 53, No. 6, 1105 – 1110, 2010.
12. Aihua Li, Michael Wilson, “Tracing Certain  $n$ -Dimensional Space Points”, *Pi Mu Epsilon Journal*, Vol. 12, No. 10, 2009.
13. Aihua Li, Mika Munakata, “Building Mathematically”, *Mathematics Teacher*, Vol. 103, Issue 1, Page 14, 2009.
14. Joseph P. Brennan, Aihua Li, Qun Huo, “Advancing Lattice Path Models for Nanoparticle Percolation of Conductivity in a Non-conductive Matrix”, *Journal of Computational and Theoretical Nanoscience*, Vol. 6, No. 3, 519–524, March 2009.
15. Aihua Li, “American Classroom Teaching and Inspiration – Observation of one Sample Class Taught by U. S. Teachers”, *Mathematics Curriculum - Practice and Research*, Beijing Normal University Publisher, 383 – 399, 2009.
16. Xiaoying Teng, Aihua Li, “Bilingual Content-based Teaching – An Important Component for Education Globalization”, *Proceedings of “the 12th World Multiconference on Systemics, Cybernetics and Informatics: WMSCI 2008”*, Paper A960DH, Orlando, Florida, 29 – July 3, 2008.

17. John Wang, Dajin Wang, and Aihua Li, "Goal Programming and Its Variants", in Adam, F. (ed.) *Encyclopedia of Decision Making and Decision Support Technologies*, Vol. 1, A–Im, 410 – 417, Information Science Reference, Hershey, PA, 2008.
18. Xiangjun Min, Aihua Li, "Algebraic Methods in Multivariate Polynomial Interpolation", *Proceedings of the Sixth EUROSIM Congress on Modeling and Simulation*, Ljubljana, Slovenia, September 2007.
19. Betty Jean Harmsen, Aihua Li, "Discrete Sturm-Liouville Problems with Nonlinear Parameter in the Boundary Conditions", *Journal of Difference Equations and Applications*, Vol. 13, Issue 7, 639 – 653, 2007.
20. Min, Xiangjun, Zhang, Xiaodan, and Aihua Li, "Algebraic Models of Discrete Time Series", Shandong Ligong Xue Bao, *Journal of Shandong University of Technology (Natural Science Edition)*, Vol. 21, no. 5, pages 93 – 96, 2007.
21. Xiaona Pan, Fucheng Liao, Aihua Li, "Certain Linear and Radical Models of Discrete Time Series", *International Journal of Pure and Applied Mathematics*, Vol. 28, no. 4, pages 487-501, 2006.
22. Aihua Li, Irena Swanson, "Symbolic Powers of Radical Ideals", *Rocky Mountain Journal of Mathematics*, vol. 36, no. 3, 2006.
23. Guiting Li, Bingtuan Wang, and Aihua Li, "Genetic Operators Design Using Division Algorithm in the Solution Space", *Proceedings of the IASTED International Conference on Modeling and Simulation*, pages 286-290, Montreal, May, 2006.
24. Aihua Li, Serpil Saydam, "Linearity of Polynomial Models of Discrete Time Series", *Proceedings of the IASTED Fifth International Conference on Modeling, Simulation, and Optimization*, pages 125-128, Aruba, August, 2005.
25. Aihua Li, "An Algebraic Approach to Building Interpolating Polynomials", *Discrete and Continuous Dynamical System*, Suppl. Vol., pages 597-604, 2005.
26. Aihua Li, "Polynomial Models of Discrete Time Series", *Proceedings of Dynamic Systems and Applications*, vol. 4, pages 68-73, 2004.
27. Aihua Li, Chuang Peng, "Linear Transformations on Polynomial Models of Time Series", *International Journal of Pure and Applied Mathematics*, Vol. 17, no. 2, pages 235-248, 2004.
28. Aihua Li, Sindhu Unnithan, "A Sequence Constructed from Fibonacci Numbers", *Applications of Fibonacci Numbers*, Vol. 9, 159-166, ed. by Fredric T. Howard, Kluwer Academic Publisher (*Proceedings of the Tenth International Conference of Fibonacci Numbers*), 2003.
29. Betty J. Harmsen, Aihua Li, "Discrete Sturm-Liouville Problems with Parameter in the Boundary Conditions", *Journal of Difference Equations and Applications*, Vo. 8, no.11, pp. 969-981, 2002.
30. Aihua Li, Duane Randal, "Non-trivial Solutions to Certain Matrix Equations", *Electronic Journal of Linear Algebra*, Vol. 9, pp. 282-289, 2002.
31. William J. Heinzer, Aihua Li, Louis J. Ratliff Jr., and David E. Rush, "Monoidal extensions of a Cohen-Macaulay Unique Factorization Domain", *Transactions of the American Mathematical Society*, 354, 1783--1791, 2002.
32. Aihua Li, "Birational Extensions of a Noetherian UFD", *Communications in Algebra*, 28(1), 209--216, 2000.
33. Aihua Li, "Prime Elements of Birational Extensions of a Noetherian UFD", *Algebra and its Applications*, Contemporary Mathematics Series, pp. 371-376, Volume 259, 2000.
34. Aihua Li, Sylvia Wiegand, "Prime Ideals in Two-dimensional Domains over the Integers", *Journal of Pure and Applied Algebra*, Vol. 130, Number 3, 313--324, 1998.
35. Aihua Li, Sylvia Wiegand, "The Polynomial Behavior of Prime Ideals in Polynomial Rings and the Projective Line over  $Z$ ", *Factorization in Integral Domains*, Lecture Notes in Pure and Applied Mathematics, pp. 383-400, Volume 189, 1997.
36. Aihua Li, "Spectra of Birational Extensions of  $Z[x]$ ", *Proceedings of International Conference in Algebra and Combinatorics (Hong Kong)*, pp. 321-326, Springer, 1997.
37. Aihua Li, "Partially Ordered Sets of Prime Ideals and Prime Filtrations of Finitely Generated Modules", *Dissertation Summaries in Mathematics*, Volume I, 1-2, 1996.

38. Aihua Li, “Associated Prime Filtrations of Finitely Generated Modules over Noetherian Rings”, *Communications in Algebra*, 23(4), pages 1511-1526, 1995.
39. Aihua Li, “Compound Extensions of Groups,” *Journal of Beijing University of Science and Technology*, 1988.
40. Aihua Li, “Exploring Group Theory Using *Mathematica* and Involving Students in Research”, Proceedings of the Eleventh ICTCM (International Conference on Technology in Collegiate Mathematics), 1998.

#### OTHER PUBLICATIONS

1. Mika Munakata, Aihua Li, “Reflections on Montclair State University–Beijing Connection”, *MAA Focus – the New Magazine of the Mathematical Association of America*, Vol. 8, Number 8, Nov. 2008
2. Aihua Li, “Teaching Abstract Algebra with Involvement of Students' Research”, Proceedings of M/SET (International Conference on Mathematics/Science Education & Technology), 1999.

#### INVITED COLLOQUIUM PRESENTATIONS/PANNELIST/WORKSHOPS

1. “Teaching Tips and Samples in the U. S. Classrooms”, invited guest lecture, College of Science, University of Science and Technology Beijing, China, July 2014.
2. “Applications of Algebra and Number Theory in Information Security”, invited guest lecture I for students in the College of Science, sponsored by a Chinese government grant, University of Science and Technology Beijing, China, March 2014.
3. “Applications of Algebra and Number Theory in Information Security”, invited guest lecture II for students in the College of Science, sponsored by a Chinese government grant, University of Science and Technology Beijing, China, March 2014.
4. “Applications of Algebra and Number Theory in Information Security”, invited colloquium presentation at Shanghai Institute of Technology, China, March 2014.
5. “Graph Connectivity Indices of Molecular Graphs and Applications in Bioinformatics”, invited colloquium presentation at Shanghai Normal University, China, March 2014.
6. “Design of Knapsack Cryptosystems Using Fibonacci Numbers”, invited colloquium presentation at Northwest University, China, March 2014.
7. “Design of Knapsack Cryptosystems Using Fibonacci Numbers”, invited colloquium presentation at Guilin University of Electronic Technology, China, Feb. 2014.
8. “Interactive Teaching Techniques Used in the U.S. Classrooms”, invited colloquium talk at the Department of Mathematics, Guilin University of Electronic Technology, Feb. 2014.
9. “Prime Spectra of Certain Two Dimensional Integral Domains – History and New Development”, Graz University of Technology, Graz, Austria, November, 2013.
10. “Interactive Teaching Techniques Used in the U.S. Classrooms”, invited colloquium talk at the Department of Mathematics, Beijing Jiaotong University, July 2013.
11. “Regional Faculty Workshop on REU Issues in Mathematics in New Jersey”, organizer, May 2013, sponsored by NSA and MSU.
12. “What Mathematics can do in Bioinformatics?” Colloquium presentation at Department of Mathematics, Morehouse College, Atlanta, GA, April, 2013.
13. “Mathematicians in the Crypto World”, invited presentation to the Math Club of Loyola University New Orleans, March 2013
14. “American Women Code Makers and Code Breakers in World Wars”, lecture in the workshop “Spy Kids Training” to a group of girls of grades 4 to 8 during the annual *Montclair Mathmadness* Events.
15. “What Mathematics can do in Bioinformatics?” Bieber Lecture presentation at Loyola University New Orleans, sponsored by the Loyola Bieber Lecture Series, October, 2012.
16. “Randic and Sum Connectivity Indices of Certain Graphs”, invited colloquium presentation, Department of Mathematics, Beijing Jiatong University, June 2012
17. “Potential Research Topics”, invited presentation at the *Machine Learning and Information Security Workshop*, Beijing Jiaotong University, June 2012.

18. “Zero Divisor Graphs of Upper Triangular Matrix Rings”, invited colloquium presentation, University of Louisiana at Lafayette, March, 2012.
19. “On the Construction of Explicit Solutions to the Matrix Equation  $AXA = XA^2X$  ”, Invited Colloquium Presentation, Department of Mathematics, Beijing Jiaotong University, July 2011.
20. “Promoting Deep Learning through Interactive Teaching”, invited key note speech in the Summer Interactive Teaching Workshop 2011, University of Science and Technology Beijing, June, 2011.
21. “On the Construction of Explicit Solutions to the Matrix Equation  $AXA = XA^2X$  ”, Invited Colloquium Presentation, University of Louisiana at Lafayette, April 2011.
22. “Contributions of Ancient Chinese Mathematics”, Invited Colloquium Presentation, Department of Mathematics, Miami University, Oxford, Ohio, Dec. 2010;
23. “Chinese Abacus and its Role in Mathematics Education”, Invited Colloquium Presentation, Department of Educational Psychology, Miami University, Oxford, Ohio, Dec. 2010.
24. “Tracing Space Points – A View of Discrete Time Series Modeling”, Invited Presentation at the School of Traffic and Transportation, Beijing Jiaotong University, July 2009.
25. “Ladder Graphs”, Invited Presentation at Department of Mathematics, Beijing Jiaotong University, July 2009.
26. “A Current Trend of College Mathematics Education in the United States: Mathematical Modeling in Classrooms,” Invited Presentation at Department of Mathematics and Mechanics, University of Science and Technology Beijing, June 2009.
27. “Polynomial Solutions to Certain Diophantine Equations”, Invited Presentation at the Department of Mathematics and Mechanics, University of Science and Technology Beijing, June 2009.
28. “Undergraduate Research in the United States – Enhancing Teaching and Learning through Research”, Invited Presentation at the College of Science, Beijing Jiaotong University, January 2009;
29. Invited Panelist: Mathematical Association of America (MAA) Annual National Meeting panel discussion: “*Mathematics and Mathematicians in Emerging Nations*”, Jan. 2007.
30. “Development and Applications of Modern Mathematics – College Mathematics Education in the United States”, Invited Presentation at School of Arts & Science, Beijing Jiaotong University, June, 2005.
31. “A Current Trend of College Mathematics Education in the United States: Mathematical Modeling in Classrooms”, Invited Presentation at University of Petroleum of China, July, 2005.

### **RECENT CONFERENCE PRESENTATIONS**

1. “Applications of Graph Connectivity Indices in DNA Data Analysis”, Joined with Pamela Guerron, Zeyad Boodoo, Patricia Dorn, presented in the poster competition at “The International Congress of Women Mathematicians 2014, Seoul, Korea, August 2014.
2. “Applications of graph connectivity indices in DNA data analysis”, Joined with Pamela Guerron, Patricia Dorn, Zeyad Boodoo, Poster presentation in the Ecology and Evolution of Infectious Disease-12th Annual Conference (EIID2014), Colorado State University, Fort Collins, Colorado, June, 2014.
3. “Graphical Properties of the Bipartite Graph Derived from  $\text{Spec}(\mathbb{Z}[x]) \setminus \{0\}$ ”, invited presentation at the Southern Regional Algebra Conference, Auburn, Alabama, April 2014.
4. “Design of Knapsack Cryptosystems using Fibonacci Numbers,” joint with Francesca Pizzigoni, invited presentation at 2014 International Conference on Computer, Network Security and Communication Engineering (CNSCE2014), Shenzhen, China, Feb. 2014.
5. “Recent Development of Randic Connectivity Index and Applications in Life Sciences,” invited presentation in the AMS Special Session on Trends in Graph Theory, Baltimore, Jan. 2014
6. “New Roles of an Old Puzzle: the Magic Square Problem,” oral presentation in the Contributed Paper Session “Recreational Mathematics: New Problems and New Solutions”, MathFest, Hartford, CT, August 2013.

7. “Zero Divisor Graphs of Upper Triangular Matrix Rings over Commutative Rings”, joint with Ralph Tucci, invited presentation at *Conference on Commutative Rings, Integer-valued Polynomials and Polynomial Functions*, Graz, Austria, Dec. 2012.
8. “Solving Second Order Discrete Sturm-Liouville BVP Using Matrix Pencils”, joint with Michael Wilson, 5. invited presentation at *the International Conference on Applied Mathematics and Approximation Theory*, held at TOBB University of Economics and Technology, Ankara, Turkey, May 2012.
6. “Randić and Sum Connectivity Indices of Certain Trees”, Joint with Jennifer Feiner, presented at *Graph Theory Day 63* held at Passaic County College, April 28, 2012.
7. “Interlace Polynomials of  $n$ -Claw Graphs”, Joint with Sarita Nemani\* (presenter), presented at *Graph Theory Day 63* held at Passaic County College, April 28, 2012.
8. “Cryptography, a Great Topic for Undergraduate Mathematics Courses”, invited presentation in the *MAA Session on Cryptology for Undergraduates*, AMS/MAA Joint National Meeting, Jan. 2011.
9. “Using Matrix Pencils to Solve Discrete Sturm-Liouville Problems with Nonlinear Boundary Conditions”, invited presentation in the *Applied Linear Algebra Conference* held in Novi Sad, Serbia, 2010;
10. “Interlace Polynomials of Ladder Graphs”, presented in the special session “Graphs and Combinatorics” in *the 17th International Conference on Interdisciplinary Mathematical & Statistical Techniques (IMST 17)* held in Pilsen, Czech Republic, 2009.
11. “Solving Certain Matrix Equations Using Advanced Symbolic Techniques”, invited presentation in *the 3rd International Workshop on Matrix Analysis and Applications* held in Lin’an, China, 2009.
12. “Bringing Cutting-Edge Research to the Middle School Classroom” joint presentation with Mika Munakata in special session “The Ways and Methods of Curriculum and Teaching” of “*the International Conference of Tradition and Innovation on Curriculum and Instruction for 2<sup>1st</sup> Centenary*”, held in Beijing Normal University, December 2008.
13. “Second Order Sturm-Liouville Difference Equations with Parameters in the Boundary Conditions”, invited presentation in the special session on Combinatorics and Discrete Dynamical Systems of the *Fist AMS Joint Meeting with Shanghai Mathematics Society*, Shanghai, China, December 2008.
14. “Interlace Polynomials of Certain Graphs”, Joint with Qing Wu, presented in “*Graph Theory Day 56*” *Conference*, Connecticut, November 2008.
15. “Tracing  $n$ -dimensional Space points”, invited presentation in the special session on *Research with Undergraduates*, *MAA MathFest*, Madison, Wisconsin, Aug. 2008.

#### **PROFESSIONAL SERVICE ACTIVITIES (Discipline-based)**

Editorial Board:	Bioinfo Publications Editorial Board, 2010 - present
Associate Editor:	Journal of Statistics and Mathematics, 2010 - present
Advisory Board Member:	Scientific Journals International (SJI), 2006 – present.
Council Member	Council on Undergraduate Research, June 2012 – May 2015
Vice Chair of MAA-NJ	(for Student Activities) Fall 2010 – present.
Secretary	MAA (Mathematical Association of America) New Jersey Section, spring 2000 – present
Co-Director	MAA-New Jersey Section Garden State Undergraduate Mathematics Conference (GSUMC), 2009 - Present
Director	SUMMA Summer REU in Mathematics at MSU funded by NSF, NSA Moody’s Foundation, summer 2008;
Director	MSU CURM research program funded by NSF/BYU, 2009/2010, 2007/2008
Undergraduate Mentor	The National Alliance for Doctoral Studies in the Mathematical Sciences, 2009 - present
Mentor	AWM Mentor Network
Junior Faculty Mentor	AWM Mentor Grant 2011

Active Referee for

*Communications in Algebra*  
*Discrete Dynamical Events*  
*Chinese Academia Sinica*  
*Houston Journal of Mathematics*  
*Linear Algebra and Its Applications*  
*Semigroup Forum*  
*Mathematics and Computer Education*  
*Arabian Journal for Science & Engineering*  
*International Journal of Math. & Math. Sciences*  
*International Journal of Applied Mathematics & Statistics*  
*Discrete & Continuous Dynamic Systems*

Reviewer for

*Mathematics Reviews*

Course Reviewer

Oregon Pre-engineering and Applied Sciences Study (OPAS),  
Educational Policy Improvement Center (EPIC), 2007

Liaison Coordinator

MAA (Mathematical Association of America) New Jersey Section, fall  
2006 – 2008

NSF Panel Reviewer

NSF TUES Program, 2010; CCLI Program 2008; NSF STEM Program:  
2007, 2008; NSF CSEMS Program, 2003, 2004;

Invited Panelist:

Mathematical Association of America (MAA) Annual National Meeting  
panel discussion: “*Mathematics and Mathematicians in Emerging  
Nations*”, Jan. 2007.

Conference (co-) Organizer:

- Regional Faculty Workshop on REU Issues, Wayne, New Jersey,  
May 4, 2013.
- Garden State Undergraduate Mathematics Conference, New Jersey,  
Springs 2012, 2011, 2012, 2013, 2014;
- Graph Theory Day 51 Conference, Montclair State University,  
May, 2006;
- Nebraska Commutative Algebra Conference (NSF funded), Lincoln,  
Nebraska, May, 2005;
- South Central Algebra Conference, New Orleans, Louisiana, April,  
2002.

Session Organizer/Chair:

- Special Session “Algebraic Structures over Commutative Rings”,  
AMS Southeastern Section Meeting, Tulane University, New  
Orleans, Oct. 13-14, 2012
- Special Session “Commutative Algebra”, AMS Central Meeting,  
UNL, Lincoln, NE, Oct. 2011
- Special Session “Combinatorics and Graph Theory”, International  
Conference on Interdisciplinary Mathematical & Statistical  
Techniques (IMST 2009), Plzeň, Czech Republic, May 23-26 2009
- Special session, “Algebraic Methods and Algorithms in Modeling  
Discrete Dynamical Systems”, the Sixth European Congress on  
Modeling & Simulation held in Ljubljana, Slovenia, Sept. 2007.

Program Committee:

The 11<sup>th</sup> International Conference on Technology of Collegiate  
Mathematics (ICTCM), New Orleans, 1998