Vladimir D. Tonchev

Curriculum Vitae

Address:	Department of Mathematical Sciences
	Michigan Technological University
	1400 Townsend Drive
	Houghton, MI 49931-1295
Phone:	Office: (906) 487-3360
E-mail:	tonchev@mtu.edu
	http://pages.mtu.edu/∼tonchev/
Citizenship:	USA

Education

Doctor of Mathematical Sciences, University of Sofia, Bulgaria, 1987.

Research Interests

Coding Theory, Combinatorics, Finite Geometry, Algorithms, Computer Algebra

Research and Scholarly Experience

May 1993 - present	Full Professor
	Department of Mathematical Sciences
	Michigan Technological University
May - June 2023	Visiting Humboldt Fellow, University of Bayreuth, Germany
June - July 2018	Fulbright Senior Specialist, Hong Kong University of Science and Technol
March 2018	Visting Research Professor, Tohoku University, Sendai, Japan
May - June 2017	Visiting Humboldt Fellow, Augsburg University, Germany
May - June 2016	Fulbright Senior Specialist, Univerity of Rijeka, Rijeka, Croatia
August 2015	Chair, Organizing Committee, "Algebraic Combinatorics and Applications
January 2015	Organizing Committee Member, BIRS Workshop on Mathematics of Com

May - June 2014	Fulbright Senior Specialist, Univerity of Kwazulu-Natal, Durban, South A
March - June 2011	Visiting Humboldt Fellow, Augsburg University, Germany
June 2010	Director, NATO Advanced Study Institute *Information Security and Rela*
June 2009	Fulbright Senior Specialist, Tohoku University, Sendai, Japan
May 2007	Fulbright Senior Specialist, UNAM, Mexico City, Mexico
July 2006	Fulbright Senior Specialist, University of Sofia, Sofia, Bulgaria.
May 2005	International Advisory Committee Member, International Conference on I
June 2004	Advisory Board Member, Conference on Association Schemes, Codes and
March - April 1998	Visiting Humboldt Fellow, Heidelberg, Germany
April - May 1998,	Visiting Humboldt Fellow, Augsburg, Germany
June 1993,	Visiting Research Professor, Concordia University, Montreal, Canada
September 1991 - May 1993	Associate Professor
	Department of Mathematical Sciences, Michigan Technological University
April 1991 - August 1991	Visiting Professor, University of Waterloo, Canada
January 1991 - March 1991	Visiting Associate Professor, University of Illinois at Chicago
March 1989 - August 1990	Research Fellow of the Alexander von Humboldt Foundation
	University of Heidelberg and University of Giessen, Germany
September 1987 - 1988	Research Fellow, Eindhoven University of Technology, The Netherlands
June 1987	Visiting Research Fellow, Gent University, Belgium
May 1987	Visiting Professor, University of Rome, Italy

Awards, Honors and Fellowships

Distinguished Professor, Michigan Technological University, 2018.
Alexander von Humboldt Research Fellow, 1989-1990, 1998, 2008, 2011, 2014, 2017, 2023
Kliakhandler Fellow, 2015.
Fulbright Senior Specialist, 2006, 2007, 2009, 2014, 2016, 2018.
Michigan Technological University Research Award, 2003.

Mathematical Sciences Outstanding Faculty Research Award, 1992, 1995, 2001, 2003, 2005, 2006, 2008, 2011, 2016, 2018.
London Mathematical Society Distinguished Lecture Series Award, 1995.
Institute of Combinatorics and its Applications, Founding Fellow, 1991.
Eindhoven University of Technology, The Netherlands, Research Fellow, 1987-1988.

External Grants

1. Fulbright Specialist Grant, June - July 2018, Hong Kong University of Science and Technology, $10,200.

2. "Designs, Codes, and Finite Geometry", NSA, 2017 - 2018, $ 39,503.

3. Fulbright Specialist Grant # 6915, University of Rijeka, Croatia, May 15 - June 25, 2016, $9,600.

4. "Designs, Codes, and Finite Geometry", NSA, 2016-2017, $39,998.

5. "Algebraic Combinatorics and Applications", NSF, 2015, $15,000.

6. "Codes, Galois Geometries, and New Invariants", NSA 2015-2016, $39,835.

7. "Workshop on Algebraic Design Theory and Hadamard Matrices", NSF, 2014, $10,000.

8. Fulbright Specialist Grant, 2014, $12,300.

9. "Combinatorial designs, error-correcting codes, and Hamada's conjecture", NSA, 2013-2014, $37,112.

10. "Combinatorial designs, error-correcting codes, and Hamada's conjecture", NSA, 2012-2013, $35,953.

11. "Classical and Quantum Error-Correcting Codes",NSA, 2011-2012, $35,697.

12. "Classical and Quantum Error-Correcting Codes", NSA, 2010-2011, $34,570.

13. NATO Science for Peace and Security, Award ASI.983988, 2009-2010, 60,000 Euros.

14. Fulbright Senior Specialist Program Grant, 2009, $7,300.

15. "Research on Combinatorial Designs and Codes", NSA, 2008-2010, $52,256.

16. Fulbright Senior Specialist Program Grant, 2007, $4,000.

17. "Classical and Quantum Codes", NSA, 2006-2008, $45,823.

18. Fulbright Senior Specialist Program Grant, 2006, $4,400.

19. Research Experience for Undergraduates, NSF, 2005, $10,800.

20. "Codes for multiple-access channels, genetic testing, deletion-insertion, and synchronization", NSF, 2003-2007, $181,683.

21. "Codes, Designs and Finite Geometry", NSA, 2003-2005, $42,017.

22. "Codes for multiple-access channels, genetic testing, and asynchronous error-correction", NRC, 2001-2003, $22,476.

23. "Error-Correcting Codes", The Alexander von Humboldt Foundation, 1998, $10,000.

24. "Codes and Designs", NSA, 1995-1997, $32,266.

25. "Error-correcting codes", NRC Twinning Grant, 1995-1998, $16,500.

26. "Second Upper Michigan Combinatorics Conference", NSF, 1994, $12,500.

27. London Mathematical Society, 1995, $5,000.

28. NSF Travel Grant, ICM 1994, 1994, $1,800.

29. Concordia University Research Grant, 1993, $3,000.

Member of Editorial Board

Journal of Algebraic Combinatorics, Springer (since 2017).
Designs, Codes and Cryptography, Springer (since 1991).
Journal of Combinatorial Designs, Wiley (since 1996).
Journal of Algebra Combinatorics Discrete Structures and Applications, an Electronic Journal (since 2014).
J. of Statistical Planning and Inference, Elsevier (1998 - 2004), associate editor.
Applications and Applied Mathematics, An International Electronic Journal (since 2004).
Albanian Journal of Mathematics (since 2008).
J. of Statistical Planning and Inference, Guest-Editor of a Special Volume on Affine Designs, Orthogonal Arrays, and Related Topics, 1994.
J. of Statistical Planning and Inference, Guest-Editor of a Special Volume "Bose Memorial Conference", 1995.

Ph.D. Students

1. Mustafa Gezek, "Combinatorial Problems related to codes, designs and finite geometries", 2017.

2. David C. Clark: "Applications of Finite Geometries to Designs and Codes", Michigan Technological University, 2012.

3. Hao Wang: "Code Synchronization and Related Topics", Michigan Technological University, 2006.

4. Chekad Sarami: "Topics in Combinatorial Designs and Codes", Michigan Technological University, 2004.

5. Ivan Landgev: "Constructive Methods in Combinatorics", University of Sofia, 1990.

6. Stojan Kapralov: " Combinatorial Configurations and Automorphism Groups", University of Sofia, 1989.

Post-doctoral Students

1. Ken Saito, Tohoku University, Sendai, Japan, August 2018.

2. Yuichiro Fujiwara, Nagoya University, Japan, 2009 - 2012.

3. Yukiasu Mutoh, Nagoya University, Japan, June - July 2004.

4. Ivan Landjev, University of Sofia, Bulgaria, 1994 - 1995.

Master's Sudents

1. Ethan Novak, 2015.

2. Benjamin Fedorka, 2014.

3. Andrew Azzam, 2008.

4. Veronica Puente Vera, 1999.

5. Robert S. Weishaar, 1993.

6. Rumjana Kurteva, 1986.

7. Raicho Raichev, 1986.

8. Dimcho Solakov, 1985.

9. Ivan Landjev, 1984.

Invited Talks

1. Ternary self-dual codes, Hadamard matrices and related designs, Rijeka Conference on Combinatorial Objects and Their Applications, Rijeka, Croatia, July 3 - 7, 2023,

   https://riccota2023.math.uniri.hr/?page_id=45.

2. On extremal ternary self-dual codes of length 36, 10th Slovenian Conference on Graph Theory, Kranjska Gora, Slovenia, June 18 - 24, 2023.

3. New Steiner 2-designs with block size 6, University of Bayreuth, Bayreuth, Germany, June 12, 2023.

4. Ternary self-dual codes, Hadamard matrices and related designs, Bulgarian Academy of Sciences, Sofia, May 10, 2023.

5. Extremal ternary self-dual codes of length 36 and related symmetric designs, AL-COCRYPT 2023: Algebraic and Combinatorial Methods for Coding and Cryptography CIRM, Luminy, France, February 20-24, 2023.

6. Doubly-enen self-dual codes of length 40 and quasi-symmetric 2-(41,9,9) designs, 6th Workshop on Algebraic Designs, Hadamard Matrices and Quantum Computing, Krakow, Poland, June 27 - July 2, 2022.

7. Coding theory, finite geometry and combinatorics, 48th International Conference Applications of Mathematics in Engineering and Economics, Sozopol, Bulgaria, June 7 - 13, 2022.

8. Coding Theory, Combinatorial Designs, and Finite Geometry, International Center for Mathematical Sciences, Bulgarian Academy of Sciences, May 17, 2022, Sofia, Bulgaria.

9. Towards the classification of unitals on 28 points of low rank, *26th International Conference on Applications of Computer Algebra, ACA 2021*, online.

10. Quasi-symmetric 2-(41,9,9) designs and doubly even self-dual codes of length 40, *26th International Conference on Applications of Computer Algebra, ACA 2021*, online.

11. Pless symmetry codes, ternary QR codes, and related Hadamard matrices and designs, *Combinatorial Designs and Codes*, July 12 - 16, 2021, University of Rijeka, Croatia, online.

12. On the classification of unitals of low rank, *European Union of Mathematicians*, June 20 - 26, 2021, online.

13. Enumeration and classification of Steiner systems of given rank, *Large-Scale Scientific Computations LSSC 2021*, Sozopol, Bulgaria, June 7-11, 2021.

14. Counting Steiner triple systems of given 2-rank or 3-rank, *14th International Conference on Geometry and its Applications*, Varna, Bulgaria, August 26 - 31, 2019.

15. New combinatorial structures in projective planes of order 16, *International Conference on Sequences, Codes and Designs*, Kalamata, Greece, Agust 1 - 4, 2019.

16. Computing Steiner systems of given rank, Bulgarian Academy of Sciences, June 7, 2019.

17. Coding Theory, Combiantorial Designs, and Finite Geometry, Michigan Technological University, Houghton, February 27, 2019.

18. Conting Steiner triple systems of given rank, 30th Coast Combinatorics Conference, University of Hawaii, Manoa, Honolulu, HI, February 11-15, 2019.

19. Resolvable Steiner Designs and Maximal Arcs in Projective Planes, Computer Science Seminar, Hong Kong University of Science and Technology, Hong Kong, June 29, 2018.

20. The linear codes of Steiner triple systems, Coding Theory Seminar, Hong Kong University of Science and Technology, July 24, 2018.

21. Resolvable Steiner systems and maximal arcs in projective planes, Combinatorics Seminar, Florida Atlantic University, Boca Raton, Florida, May 4, 2018.

22. Steiner triple systems and their codes, Mathematics Colloquium, Florida Atlantic University, Boca Raton, Florida, April 26, 2018.

23. Counting Steiner triple systems of given 3-rank, The 3rd Sendai Workshop on Algebraic Combinatorics, Tohoku University, Sendai, Japan, March 5 - 9, 2018.

24. Resolvable Steiner designs and maximal arcs, The 3rd Sendai Workshop on Algebraic Combinatorics, Tohoku University, Sendai, Japan, March 5 - 9, 2018.

25. Resolvable designs and maximal arcs in projective planes, *Finite Geometries: Fifth Irsee Conference*, 10 - 16 September 2017, Irsee, Germany.

26. *Resolvable designs and maximal arcs in projective planes*, Mathematics Colloquium, University of Augsburg, Augsburg, Germany, May 16, 2017.

27. *On the weight distribution of self-dual codes based on polarity designs*, Coding Theory Seminar, Bulgarian Academy of Sciences, Sofia, Bulgaria, April 27, 2017.

28. *Resolvable designs and maximal arcs in projective planes*, Algebraic Combinatorics Seminar, Colorado State University, Fort Collins, Colorado, April 21, 2017.

29. "Quantum codes from combinatorial designs and finite geometry", University of Rijeka, Croatia, June 2, 2016.

30. "Quantum codes from combinatorial designs and finite geometry", University of Split, Croatia, May 24, 2016.

31. "Incidence Structures, Codes, and Galois Geometry", Seventh Discrete Geometry and Algebraic Combinatorics Conference, April 8-11, 2015, University of Texas - Brownsville.

32. Codes, Galois geometries, and new invariants for incidence structures, NATO Advanced Study Institute, Ohrid, Macedonia, August 24 - September 5, 2014.

33. On some special classes of Hadamard matrices, "Algebraic design theory with Hadamard matrices: applications, current trends and future directions", BIRS Workshop 14w2199, July 11-13, 2014, Banff, Canada.

34. Combinatorial constructions of quantum codes, Research Seminar, University of Kwazulu-Natal, Durban, South Africa, May 9, 2014.

35. Incidence structures, codes, and Galois geometry, Research Seminar, University of Kwazulu-Natal, Durban, South Africa, May 16, 2014.

36. New invariants for incidence structures, Tutte Seminar, University of Waterloo, 26 April, 2013.

37. Incidence structures, codes, and Galois geometry, plenary lecture, 5th Croatian Mathematical Congress, June 18-21, 2012, Rijeka, Croatia.

38. Combinatorial constructions of quantum codes, Mathematics Colloquium, Oakland University, Rochester, Michigan, April 13, 2012.

39. On designs, codes, and finite geometry, Baer Colloquium, March 24, 2012, Magdeburg, Germany.

40. Nonbinary quantum codes from finite geometries, *Finite Geometries 2011 - Third Irsee Conference*, Irsee, Germany, June 19-25, 2011.

41. Quantum codes from combinatorial designs and finite geometry, Technical University Dresden, Germany, June 9, 2011.

42. Affine geometry designs, polarities, and related codes, RIMS Joint Research on Algebraic Coding Theory, Combinatorial Designs, and Related Areas, Kyoto, Japan, March 7-9, 2011.

43. Finite geometry designs and Hamada's conjecture, NATO Advanced Study Institute *Information Security and Related Combinatorics*, Opatija, Croatia, May 31 - June 11, 2010.

44. Geometric Designs and Hamada's Conjecture, International Conference "Algebraic Combinatorics and Applications", Thurnau, Germany, April 11-18, 2010.

45. Constructions of quantum codes from finite geometry and combinatorial designs, Mathematics Colloquium, University of Wisconsin - Madison, April 5, 2010.

46. Geometric Designs and Hamada's Conjecture, International Conference "Designs, Codes and Geometries", University of Delaware, March 30 - April 2, 2010.

47. Geometric Designs and Hamada's Conjecture, AMS Special Session on Coding Theory, Lexington, KY, March 26-28, 2010.

48. Polarities, quasi-symmetric designs, and Hamada's Conjecture, 26th Symposium on Algebraic Combinatorics, Yamagata, Japan, June 24-26, 2009.

49. Combinatorial designs and code synchronization, Summer School "Designs and Codes", Yamagata, Japan, June 21-24, 2009.

50. Error-Correcting Codes, Graduate School of Information Sciences, Tohoku University, Sendai, Japan, June 1 - 19, 2009.

51. Polarities and Hamada's Conjecture, "Cryptology, Designs, and Finite Groups", Deerfield Beach, Florida, May 17-22, 2009.

52. "Quasi-symmetric designs, polarities, and Hamada's conjecture", BIRS Workshop "Invariants of Incidence Matrices", March 29 - April 3, 2009, Banff, Canada.

53. Quantum codes from caps, RIMS Symposium "Finite Groups, Vertex Operator Algebras and Combinatorics", Kyoto, January 6-9, 2009.

54. "Combinatorial Designs and Code Synchronization", Bayreuth University, Germany, May 24, 2008.

55. "Combinatorial Designs and Code Synchronization", NATO Advanced Study Institute, Vlora, Albania, April 28-May 9, 2008.

56. "Combinatorial Designs and Code Synchronization", UNAM, Mexico City, May 2007, Fulbright Senior Specialist Program # 2211.

57. "Symmetric Nets and Hamada's Conjecture", University of Sofia, July 2006, Fulbright Senior Specialist Program #1868.

58. "Steiner systems with two block sizes and group testing designs", DIMACS Workshop on Combinatorial Group Testing, May 17 - 19, 2006.

59. "Generalized Hadamard matrices and Hamada's Conjecture", Institute for Problems of Information Transmission, Russian Academy of Sciences, Moscow, June 2005.

60. "Conflict-avoiding codes and cyclic triple systems", International Conference on Designs of Experiments: Theory and Applications, Memphis, May 13-15, 2005.

61. "Difference Systems of Sets and Code Synchronization", Conference on experimental design and analysis and related mathematical structures with applications, Ise, Japan, November 17-19, 2004.

62. "Generalized Incidence Matrices and a Characterization of the Classical Designs", Nagoya University and Keio University, Japan, November 22, 2004.

63. "Linear Orthogonal Arrays and Affine Designs", University of Tsukuba, Japan, November 25, 2004.

64. "Affine Designs and Linear Orthogonal Arrays", International Conference on Incidence Geometry, La Roche, Belgium, May 23-29, 2004.

65. "Symmetric nets and generalized Hadamard matrices over groups of order 4", International Workshop on Combinatorics, Keio University, Yokohama, Japan, January 20-22, 2004.

66. "Symmetric nets and generalized Hadamard matrices over groups of order 4", International Symposium on Graphs, Designs, and Applications, Messina, Italy, September 30 - October 4, 2003.

67. "MDS codes, n-arcs and complete designs", Workshop on Codes and Designs, Yamagata, Japan, 10 August, 2003.

68. "Error-correcting codes, graphs and designs", University of Wales, Aberystwyth, UK, March 6, 2003.

69. "Constructions of difference systems of sets", Finite Geometries, First Irsee Conference, Irsee, Germany, February 16-21, 2003.

70. "Error-Correcting Codes and Generalized Weighing Matrices", MCCCC16, Carbondale, November 7-9, 2002.

71. "A formula for Steiner systems of low 2-rank", The 19th Algebraic Combinatorics Symposium, Kumamoto, Japan, July 1-3, 2002.

72. "Formulas for Steiner triple and quadruple systems of low rank", 4th Shanghai Combinatorics Conference, May 24-28, 2002, Shanghai, China.

73. "Perfect codes, MDS codes, and a characterization of the classical designs", Institute for Problems of Information Transmission, Russian Academy of Sciences, Moscow, Russia, March 5, 2002.

74. "A formula for Steiner triple and quadruple systems of low rank", Moscow State University, Moscow, Russia, March 6, 2002.

75. "A formula for Steiner triple and quadruple systems", Finite Geometries, Oberwolfach, Germany, December 2001.

76. "Perfect codes and generalized balanced weighing matrices", Tutte Seminar, University of Waterloo, October 19, 2001.

77. The Second Lethbridge Workshop on Designs, Codes, Cryptography and Graph Theory, University of Lethbridge, Lethbridge, Alberta July 9 - 14, 2001: "Applications of combinatorial designs in digital communication".

78. DISCRETE MATHEMATICS AND ITS INDUSTRIAL APPLICATIONS, Capri, Italy, June 7-10, 2001, "Applications of combinatorial designs in digital communication".

79. Emerging Applications of Combinatorial Design, MSRI Berkeley, November 5-10, 2000; "Applications of combinatorial designs in digital communication ".

80. Com^2MaC Conference on Association Schemes, Codes and Designs, Postech, Pohang, Korea, July 3-7, 2000. "A mass formula for Steiner triple systems $STS(2^n - 1)$ of 2-rank $2^n - n$".

81. The 25th Ohio-Denison University Mathematics Conference, May 18-21, 2000, "A mass formula for Steiner triple systems $STS(2^n - 1)$ of 2-rank $2^n - n$".

82. Southern Illinois University, April 7, 2000, "A mass formula for Steiner triple systems $STS(2^n - 1)$ of 2-rank $2^n - n$.

83. Brigham Young University, October 1999, "Graphs and Codes".

84. Research Institute for Mathematical Sciences, Kyoto University, Japan, Workshop "Algebraic Coding Theory and Combinatorial Designs", September 6-10, 1999, "Optimal codes and designs".

85. Research Institute for Mathematical Sciences, Kyoto University, Japan, Workshop "Algebraic Coding Theory and Combinatorial Designs", September 6-10, 1999, "Perfect codes and a characterization of the classical designs".

86. Research Institute for Mathematical Sciences, Kyoto University, Japan, Workshop "Algebraic Coding Theory and Combinatorial Designs", September 6-10, 1999, "Unital designs and codes".

87. University of Kiel, Germany, June 1999, "Codes and Unitals".

88. Coding, Cryptography and Computer Security Workshop, University of Lethbridge, Canada, August 1998, main speaker on Coding Theory.

89. IMA Workshop "Coding and Cryptography", Minneapolis, "Linear perfect codes and a characterization of the classical designs", July 1998.

90. University of Essen, Germany, "Codes and graphs", June 1998.

91. University of Duisburg, Germany, "Codes and graphs", June 1998.

92. XXIV International Summer School "Applications of Mathematics in Industry", Sozopol, Bulgaria, "Quantum error-correcting codes", June 1998.

93. University of Kiel, Germany, "Linear perfect codes and a characterization of the classical designs", May 1998.

94. University of Augsburg, Germany, "Codes and graphs", May 1998.

95. Technical University of Denmark, Copenhagen, "Linear perfect codes and a characterization of the classical designs", April 1998.

96. University of Linköping, Sweden, "Codes and graphs ", April 1998.

97. University of Turku, Finland, "Codes and graphs", April 1998.

98. Mathematical Institute Oberwolfach, Germany, "Linear perfect codes and a characterization of the classical designs", March 1998.

99. AT&T Research Labs, "Graphs and Codes", November 1997.

100. University of Delaware, "Enumeration of Affine Designs", November 1997.

101. International Conference on Combinatorics, Information Theory & Statistics, University of Southern Maine, Portland, Maine, July 1997, "Embedding partial geometries in Steiner systems".

102. Workshop in Cryptography and Coding Theory, Lincoln, Nebraska, June 1997, "Strongly regular graphs and codes".

103. Transversal Designs and Orthogonal Arrays, Waterloo, April 1997, "Enumeration of Affine Designs".

104. Eleventh Midwestern Conference on Combinatorics, Cryptography, and Computing, Las Vegas, October 1996, "Codes and Designs: Some Recent Results".

105. Eindhoven University of Technology, The Netherlands, "Partial Geometries and Designs", May 1996.

106. Tilburg University, The Netherlands, "Error-correcting codes and combinatorial designs", May 1996.

107. AMS-Benelux Congress, "Difference sets and Linear Codes", May 1996.

108. "Partial Geometries and Steiner Designs", University of Iowa, March 22-23, 1996, AMS Meeting, Special Session "Finite Geometries".

109. Wright State University, "Linear Codes and Difference Sets", February 1996.

110. California Institute of Technology, "Codes and Difference Sets", November 1995.

111. Clemson University, "Strongly regular graphs and optimal codes", October 1995.

112. Queen Marry and Westfield College, London, "SDP designs", June 1995.

113. Royal Holloway College, London, "Codes and Designs", June 1995.

114. University of Wales, "Quasi-symmetric designs", June 1995.

115. Bose Memorial Conference, Fort Collins, Colorado, June 1995, "Strongly Regular Graphs and Codes".

116. Oberwolfach Conference "Designs and Codes", April 1994.

117. Mathematics Colloquium, Southern Illinois University, Carbondale, May 1994.

118. Combinatorial Theory Seminar, Concordia University, Montreal, June 1993.

119. International Conference on Difference Sets, Ohio, May 1993. University of Michigan, Ann Arbor, Group Theory Seminar, April 1993.

120. AMS Special Session "Finite Geometry", Bethlehem, April 1992.

121. AMS Special Session "Codes and Designs", Baltimore, January 1992.

122. Central Michigan University, Mathematics Colloquium, April 1992.

123. University of Lincoln-Nebraska Colloquium, March 1991.

124. University of Wisconsin-Parkside, Mathematics Colloquium, February 1991.

125. University of Loyola, Chicago, Mathematics Colloquium, January 1991.

126. International Conference "Finite Geometries and Designs", Isle of Thorns, England, July 1990.

127. Oberwolfach,"Codes and Designs", April 1990.

128. University of Kiel, Germany, "Codes and Designs", December 1989.

129. Free University, West Berlin, "Codes and Designs", November 1989.

130. Institute of Mathematics, Academy of Sciences, East Berlin, "Codes and Designs", November 1989.

131. University of Tübingen, Germany, "Codes and Groups", October 1989.

132. University of Gent, Belgium, "Partial Geometries", June 1989.

133. Munich Technological University, Germany, "Some new codes", November 1988.

134. University of Gent, Belgium, "Quasi-symmetric designs", June 1987.

135. University of Rome, Italy, "Designs and Codes", May 1987.

136. University of Naples, Italy, "Designs and Codes", May 1987.

137. University of Lincoln-Nebraska, October 1986.

138. University of Illinois at Chicago, October 1986.

139. Long Island University, October 1986.

140. International Conference "Finite Geometries and Designs", Deinze, Belgium 1986.

141. Oberwolfach, "Finite Geometries", May 1985.

142. Second International Conference on Finite Geometries, Hans Sur Les, Belgium, June 1979.

Other Professional Services

Chair, Organizing Committee, "Algebraic Combinatorics and Applications", First Kliakhandler Conference, August 26-30, 2015, Houghton, Michigan, USA.
Organizing Committee member, BIRS Workshop on Mathematics of Communications: Sequences, Codes and Designs, January 25-30, 2015.
Organizing Committee member, "Workshop on Algebraic Design Theory and Hadamard Matrices ADTHM 2014", Lethbridge, Canada, July 8 - 11, 2014.
Director, NATO Advanced Study Institute *Information Security and Related Combinatorics*, Opatija, Croatia, May 31 - June 11, 2010. Scientific Program Committee, "Pioneers of Bulgarian Mathematics", University of Sofia, Bulgaria, July 2006. International Advisory Committee Member, International Conference on Design of Experiments: Theory and Applications, May 13-15, 2005, The University of Memphis.
Advisory Board Member, 2004 Com2MaC Conference on Association Schemes, Codes and Designs, July 19 - 23, 2004, Pusan National University, Busan, Korea.
Member of the Organizing Committee, Second Upper Michigan Combinatorics Workshop, MTU, August 1994.
Co-Chairman of the Program Committee, International Workshop on Algebraic and Combinatorial Coding Theory, Novgorod, Russia, September 1994.
Member of the Organizing Committee, First Upper Michigan Combinatorics Workshop, MTU, August 1992.
Co-Chairman of the Program Committee, International Workshop on Algebraic and Combinatorial Coding Theory, Voneshta Voda, Bulgaria, June 1992.
Co-Chairman of the Program Committee, International Workshop on Algebraic and Combinatorial Coding Theory, St. Petersburg, September 1990.
Co-Chairman of the Program Committee, International Workshop on Algebraic and Combinatorial Coding Theory, Varna, Bulgaria, September 1988.

Courses recently taught

Graduate: Coding Theory, Cryptography, Combinatorial Designs, Graph Theory, Abstract Algebra, Group Theory.
Undergraduate: Coding Theory, Combinatorics, Cryptography, Calculus, Differential Equations, Linear Algebra.