

# Walter Denis Wallis: Curriculum Vitae

## Personal

- Date and Place of Birth: 6-26-41, Sydney, Australia
- Present Home Address: 713 W Elm, Carbondale, IL 62901
- Present University Affiliation: Professor, Department of Mathematics, Southern Illinois University, Carbondale, IL 62901-4408, and Department of Computer Science, Southern Illinois University, Carbondale, IL 62901-4511
- Australian Citizen; US Citizen.  
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## Education

- B.Sc. University of Sydney 1963
- Ph.D. University of Sydney 1968

## Professional Experience

- Permanent Positions:
  - 1985– Southern Illinois University, Carbondale, IL Professor of Mathematics
  - 1970–85 University of Newcastle, Newcastle, Australia, Lecturer in Mathematics (Promoted: 1971 - Senior Lecturer 1973 - Associate Professor)
  - 1967–70 La Trobe University, Melbourne, Australia, Lecturer in Mathematics
- Visiting Professorships (over one month)
  - 9/72–12/72 University of Waterloo, Canada
  - 1/73– 3/73 University of Manitoba, Canada
  - 4/73– 5/73 University of Glasgow, Scotland
  - 9/76–12/76 University of Surrey, England
  - 1/77– 3/77 University of Waterloo, Canada
  - 1/78– 6/78 University of Waterloo, Canada
  - 9/84– 2/85 Simon Fraser University, Canada
  - 3/85– 8/85 University of Waterloo, Canada
  - 5/88– 8/88 Curtin University of Technology, Australia
  - 9/98– 6/99 University of Newcastle, Australia
  - 11/99– 1/00 University of Newcastle, Australia

## Teaching Experience

- Teaching Interests and Specialties: Pure and Applied Combinatorics, Combinatorial Designs, Graph Theory, Cryptography, Introduction to Mathematics for Non-Technical Students
- Students who have completed Master's Theses and Doctoral Dissertations under my direction:
  - M Math: J. Milas, G. Southern, P. Hogarth, T. Scott
  - MS: C. Lin, G. Zhang, J. Kekade, A. Ghebremichael, A. Fernandez, H. Anver
  - Ph D: I. Beaman, K. Heinrich, C. Lin, G. Zhang, D. Haile, D. Karayiannis, H. Ibrahim, A. Marr

## Professional Service

- Membership in Professional Associations:
  - Institute for Combinatorics and Applications (Fellow)
  - Australian Mathematical Society (Fellow)
  - Combinatorial Mathematics Society of Australasia
  - American Mathematical Society
  - Mathematical Association of America
- Offices Held and Honors Awarded in Professional Associations:
  - Chairman, Combinatorial Mathematics Society of Australasia, 1978–1979
  - Founding Fellow and member of Council, Institute for Combinatorics and its Applications
  - Vice-President, Institute for Combinatorics and its Applications, 1996-2002
  - Secretary, Institute for Combinatorics and its Applications, 2002-
- Editorial:
  - Editor: The Journal of Combinatorial Mathematics and Combinatorial Computing
  - Editor-at large, Marcel Dekker Inc.
  - Editorial Board: Ars Combinatoria; SCIMA; Journal of Combinatorics, Information and Systems Science; Australasian Journal of Combinatorics; International Journal of Mathematics and Computer Science; Journal of Interdisciplinary Mathematics; Journal of Statistical Theory and Practice

## Invited Presentations at Professional meetings

### Hour or longer invited lectures:

- January 1972 Australian Mathematical Society Summer Research Institute, Sydney, N.S.W., "Graphs and Groups" (lecture series)
- June 1972 First Australian Conference on Combinatorial Mathematics, Newcastle, N.S.W., "Combinatorial Applications in Operations Research"
- March 1973 Fourth South-Eastern Conference on Combinatorics, Graph Theory and Computing, Boca Raton, FL, "My favourite family of block designs"
- March 1980 Eleventh South-Eastern Conference on Combinatorics, Graph Theory and Computing, Baton Rouge, LA, "Hadamard Equivalence"
- June 1983 NSERC Workshop on Latin Squares and Applications, Burnaby, BC, "Orthogonal Diagonal Latin Squares."
- October 1983 Thirteenth Manitoba Conference on Numerical Mathematics and Computing, Winnipeg, MB, "Three orthogonal Latin squares"
- April 1987 Kansas Academy of Sciences, 119th Annual General Meeting, Wichita, KS, "Public-key cryptography"
- August 1988 International Conference on Combinatorial Designs and Applications, Tunxi, China, "One-factorizations of multigraphs"

- January 1991 Mathematical Association of America Annual Meeting, San Francisco, CA, “Combinatorial Designs” (minicourse, 4 hours)
- November 1991 Institute of Mathematics and its Applications Workshop on Combinatorics and Linear Algebra, Minneapolis, MN, “Hadamard Matrices”
- February 1993 Twenty-fourth South-Eastern Conference on Combinatorics, Graph Theory and Computing, Boca Raton, FL, “Hadamard Matrices, 1893–1993” (2 hour lectures)
- May 1993 International Conference on Designs, Codes and Finite Geometries, Shanghai, China, “Regular graph designs”
- October 1995 Clemson Mini-Conference on Combinatorics, Graph Theory and Computing, Clemson SC, “Some tournaments of block size 3”
- January 1996 Ramanujan Mathematical Society, Tiruchiapally, India, “Tournaments for Triads”
- August 1999 DREI, Dimacs, Rutgers University, NJ, “Graph factorizations”
- July 2000 Com2MaC International Conference on Association Schemes, Designs and Codes, Pohang University, Korea, “Generalizations of Kirkman Triple Systems”
- July 2001 26th Australasian Conference on Combinatorial Mathematics and Combinatorial Computing, Curtin University, Perth, “Magic Labellings”
- July 2001 12th Australasian Workshop on Combinatorial Algorithms, Bandung, Indonesia, “Totally Magic Graphs”
- October 2001 15th Midwest Conference on Combinatorics, Cryptography and Computing, Las Vegas, “Totally Magic Graphs”
- December 2001 8th International Conference of Forum for Interdisciplinary Mathematics, Wollongong, Australia, “Graph Labellings”
- July 2002 DIMACS Workshop on Graph Labelings, Newark, New Jersey, “Magic Labelings and Magic Graphs”
- May 2003 Conference in Honour of Brian Alspach, Vancouver, Canada, “Magic Labellings and Other Graph Labellings”
- September 2003 Workshop on Applications of Network Dynamics Research, DSTO, Edinburgh, South Australia, “Tournament Scoring as a Network Analysis Tool”
- November 2003 First International Workshop on Graph Labelings, Newcastle, Australia, “Totally Magic Graphs”
- March 2005 Workshop on Applications of Network Dynamics Research, DSTO, Edinburgh, South Australia, “Enterprise Graphs and Small Worlds”
- July 2005 Third International Workshop on Graph Labelings, Her’lany, Slovakia, “Totally Magic Labellings and Injections”
- October 2005 19th Midwest Conference on Combinatorics, Cryptography and Computing, Rochester, NY, “Generalizations of Steiner Triple Systems”
- December 2005 30th Australasian Conference on Combinatorial Mathematics and Combinatorial Computing, University of Queensland, “Latin Squares with and without Orthogonal Mates”
- February 2007 International Conference on Graph Theory and Information Security, Bandung, Indonesia, “Enterprise Graphs and Small Worlds”
- June 2007 International Workshop on Combinatorics 2007, Yokohama/Kyoto, Japan, “Triple Arrays”

**Shorter invited talks:**

- April 1970 American Mathematical Society Symposium, Madison, WI, “Direct Summands in Representation Algebras”
- April 1970 New York Academy of Sciences Conference on Combinatorial Mathematics, New York, NY, “Extreme Tournaments”
- October 1978 New York Academy of Sciences, Second Conference on Combinatorial Mathematics, New York, NY, “Spouse-avoiding mixed doubles tournaments”

- July 1985 New York Academy of Sciences, Third Conference on Combinatorial Mathematics, New York, NY, “Not-too-bad factorizations of graphs”
- October 1987 American Mathematical Society Symposium, Lincoln, NE, “Clique partitions and finite geometries”
- November 1989 American Mathematical Society Symposium, Fayetteville, AR, “Clique partitions of split graphs”
- January 1991 American Mathematical Society Symposium, San Francisco, CA, “Arcs in Latin squares”
- November 1992 American Mathematical Society Symposium, Dayton, OH, “A family of resolvable regular graph designs”
- March 1995 American Mathematical Society, Orlando, FL, “Solution to a tournament problem”
- June 1995 R C Bose Memorial Conference, Fort Collins, CO, “Kirkman’s school projects”
- October 1998 Australian Mathematical Society, Sydney, Australia, “Generalized Kirkman Designs”
- April 2003 American Mathematical Society Special Session, Bloomington, IN, “Totally magic labellings”
- July 2003 ICIAM/Australian Mathematical Society, Sydney, Australia, “Generalizations of Kirkman Triple Systems”
- July 2003 DIMACS Workshop on Designs, Newark, New Jersey, “Triple Arrays”
- March 2004 Thirty-fifth South-Eastern Conference on Combinatorics, Graph Theory and Computing, Boca Raton, FL, “Overfull Factorizations”
- June 2004 SIAM, Nashville, TN, “Overfull Factorizations of Complete Graphs”
- January 2005 Symposium at American Mathematical Society Meeting, Atlanta, GA, “Excessive Factorizations of Class 2 Cubic Graphs”
- May 2005 American Mathematical Society, Lubbock, TX, “Overfull Factorizations – an Update”
- January 2007 Mathematical Association of America, New Orleans, LA, “One and One Third Orthogonal Latin Squares”
- January 2008 Mathematical Association of America, San Diego, CA, “Champions in Graphs”