

RESUME

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I. PERSONAL DATA

Born in Providence, Rhode Island, Citizen of USA

Current Position: Professor of ECE, College of Engineering, University of Iowa

- II. EDUCATION AND REGISTRATION
- a. BSEE 1960 Iowa State University
 - b. M.S. 1962 Princeton University
 - c. Ph.D. 1966 Princeton University
 - d. Iowa PE No. 7351, inactive since 2001

III. PROFESSIONAL EXPERIENCE

A. Academic

1. 1965- University of Iowa, Professor
2. 1974-75 Electrical Engineering Program Chairman
3. 1992-97 University of Iowa, Associate Dean Engineering
4. 2000 ECE Interim Chairman
5. Thesis advisor for 14 Ph.D. and 21 M.S. students

B. ABET Computer Engineering/Electrical Engineering Evaluator

1. University of Puerto Rico, 1996
2. California Polytechnic State University, 1996
3. West Virginia University, 1997
4. Old Dominion University, 1997
5. Colorado Technical University, 1998
6. Western Michigan University, 1999
7. Kettering University, 1999
8. University of Pennsylvania, 2000
9. University of Maryland, 2000
10. University of South Florida, 2001

C. Research Grants

1. Block Decoding Convolutional Codes, 1966-69, National Science Foundation
2. Quadratic Codes, 1968-71, National Science Foundation
3. Theory & Application of Automata, 1968-73, Office of Naval Research
4. Tree Codes for Data Security, 1975-76, National Science Foundation
5. Validating Fault Tolerant Computer Systems, 1981-82, NASA
6. Trellis Coding - HF Channel, 1991-95, Rockwell International

D. Industrial positions

1. 1960-1962 RCA Research Laboratories - Member Technical Staff
2. 1962-1963 IBM Watson Research - Member Technical Staff
3. 1969 Collins Radio - Member Technical Staff

- E. Consulting, technical - representative clients
 1. 1966-69 Collins Radio, Cedar Rapids, Iowa
 2. 1973-76 Eagle Signal, Davenport, Iowa
 3. 1974-76 Recognition Associates, Dallas, Texas
 4. 1988 Zenith, Glenview, Illinois
 5. 1997 Motorola, Schaumburg, Illinois

- F. Consulting, expert - representative clients
 1. 1976 Lane & Waterman, Davenport, Iowa
 2. 1981-82 Johnson & Hayes, St. Ann, Missouri
 3. 1981 Hansen, McClintock and Riley, Des Moines, Iowa
 4. 1983-1984 Amster, Rothstein & Engelberg, New York, New York
 5. 1985 Denenberg, Tuffley & Bocan, Southfield, Michigan
 6. 1990-1994 Robins, Kaplan, Miller & Ciresi, Minneapolis, Minnesota
 7. 1991-1994 Rolf Stadheim Ltd., Chicago, Illinois
 8. 2001 Lamson, Dugan & Murray, LLP, Omaha, Nebraska

- G. Consulting, areas of specialization (number of cases) & activities
 1. Electrical Engineering
 - Coding & Info Theory (24)
 - Electronics (17)
 2. Computer Systems
 - Testing and Reliability (13)
 - Privacy and Data Security (6)
 3. Electrical Safety
 - Fires and explosions (33)
 - Electric Shock (9)
 - Lightning (5)
 4. Activities
 - Written reports (87)
 - Depositions (11)
 - Testimony at trial (4)

- H. Service
 1. University of Iowa: University Council on Teaching 1980-82
 College Lectures Committee 1974-75; College Curriculum Committee 1985-1988; College Promotions and Tenure Committee 1976-1979, Chair 1989, 1998-2000, Chair 1999; Engineering Faculty Council 1981-1982, 1990-1993, 2002-2005; Dean Search Committee 1991-92
 University Presidential Scholarship Selection Committee 1984-85
 Iowa Men's Track Faculty Recognition Award 1990

2. Community
 - Iowa City Board of Electrical Examiners 1974-79
 - St. Mary's Parish Council and Finance Committee 1984-1986
3. National
 - a. Reviewer for IEEE Transactions on; Communications, Computers, Computer Aided Design, Design and Test, Industrial Electronics, Information Theory, Parallel & Distributed Systems; Discrete Mathematics, Information and Control Journal of Electronic Testing
 - b. Reviewer for National Science Foundation
 - c. Computer Society Distinguished Visitors Program 1974-1979
 - d. Data Processing Management Association Speakers Program 1976-1982

IV. Other Experience

A. Jobs Held:

Baker, Cafeteria checker, Dishwasher, Photographer, Printer; Ames, Iowa
Brick layer, Cement finisher, Painter; Fremont, Nebraska
Construction laborer; Estherville, Iowa and Carlsbad, New Mexico
Dynamiter; Chevron Oil Company, Carlsbad, New Mexico
Private school treasurer; Montessori School, Iowa City, Iowa
Roofer; Fremont, Nebraska and Carlsbad, New Mexico
Star route mail truck driver; Niagara, North Dakota

B. University and Community

1. Certified USA Track & Field Official
2. Timer/wind gauge for Iowa track meets 1975-2005
3. Accutrack operator, Iowa Men's and Women's Track 1982-96
4. Head timer for 7 Iowa Cross Country/Indoor Track Meets 1983-1989

C. Hobbies:

1. Silversmith, fabrication and casting
2. Kite and model builder
3. Serious runner:
 - a) 53,200 miles logged since 1972
 - b) Sub 5 minute mile 1974, sub 3 hour marathon 1978
 - c) Ran every day in 2000, averaging 5 miles/day
 - d) 369 trophies, 268 medals, mostly in age-group races

V. PUBLICATIONS

A. Paper Reprinted

Nordstrom, A.W. and J.P. Robinson, "An Optimum Nonlinear Code,"

1. Algebraic Coding Theory, Benchmark Papers in Electrical Engineering and Computer Science, Dowden, Stroudsburg, 1973, pp. 358-361.
2. Key Papers in the Development of Coding Theory, Edited by Elwyn R. Berlekamp, IEEE Press, New York, 1974, p. 101.

B. Journal Papers

1. Freiman, C.V. and J.P. Robinson, "An Analytic Comparison of Block and Recurrent Codes for the Correction of Independent Errors," IEEE Trans on Information Theory, Vol. IT-11, No. 3, July 1965, pp. 445-449.
2. Robinson, J.P., "An Upper Bound on the Minimum Distance of a Convolutional Code," IEEE Trans on Information Theory, Vol. IT-11, No. 4, October 1965, pp. 567-571.
3. Robinson, J.P. and A. J. Bernstein, "A Class of Binary Recurrent Codes with Limited Error Propagation," IEEE Trans on Information Theory, Vol. IT-13, No. 1, October 1967, pp. 106-113.
4. Robinson, J.P., "Improved Gilbert Bound for Convolutional Codes," IEEE Trans on Information Theory, Vol. IT-13, No. 2, April 1967, pp. 217-220.
5. Nordstrom, A.W. and J.P. Robinson, "An Optimum Nonlinear Code," Information and Control, Vol. 11, Nos. 5-6, November 1967, pp. 613-616.
6. Robinson, J.P., "Definite Decoding and Error Propagation of Convolutional Codes," IEEE Trans on Information Theory, Vol. IT-14, No. 1, January 1968, pp. 121-128.
7. Reddy, S.M. and J.P. Robinson, "Construction of Convolutional Codes Using Block Codes," Information and Control, Vol. 12, No. 1, January 1968, pp. 55-70.
8. Robinson, J.P., "Reversible Convolutional Codes," IEEE Trans on Information Theory, Vol. IT-24, July 1968, pp. 609-610.
9. Reddy, S.M. and J.P. Robinson, "A Decoding Algorithm for Some Convolutional Codes Constructed from Block Codes," Information and Control, Vol. 12, No. 5, November 1968, pp. 492-507.

10. Robinson, J.P., "Punctured Uniform Codes," IEEE Trans on Information Theory, Vol. IT-14, No. 1, January 1969, pp. 149-152.
11. Reddy, S.M., G. I. Davida, and J.P. Robinson, "A Class of High-Rate Double-Error-Correcting Linear Convolutional Codes," Information and Control, Vol. 16, No. 3, February 1970, pp. 225-230.
12. Davida, G.I. and J.P. Robinson, "Detection-Correction Decoding for System Reliability," IEEE Trans on Reliability, Vol. R-19, Nov. 4, November 1970, pp. 188-190.
13. Hoffner, C.W. and J.P. Robinson, "High-Rate Burst-Error-Correcting Recurrent Codes," IEEE Trans on Information Theory, Vol. IT-17, No. 6, November 1971, pp. 761-765.
14. Reddy, S.M. and J.P. Robinson, "Hybrid Block-Self-Orthogonal Codes," IEEE Trans on Information Theory, Vol. IT-18, No. 1, January 1972, pp. 185-191.
15. Gault, J.W., J.P. Robinson and S. M. Reddy, "Multiple Fault Detection in Combinational Networks," IEEE Trans on Computers, Vol. C-21, No. 1, January 1972, pp. 31-36.
16. Reddy, S.M. and J.P. Robinson, "Random Error and Burst Correction by Iterated Codes," IEEE Trans on Information Theory, Vol. IT-18, No. 1, January 1972, pp. 182-185.
17. Alton, E.D., K. E. Lonngren, N. R. Malik and J. P. Robinson, "A Design-Oriented Laboratory Sequence," IEEE Trans on Education, Vol. E-17, August 1974, pp. 170-171.
18. Robinson, J.P. and C. W. Hoffner, "Easily Tested Three-Level Gate Networks for T or More of N Symmetric Functions," IEEE Trans on Computers, Vol. C-24, No. 3, March 1975, pp. 331-335.
19. Robinson, J.P., "An Asymmetric Error-Correcting Ternary Code, IEEE Trans on Information Theory, Vol. IT-24, No. 2, March 1978, pp. 258-261.
20. Robinson, J.P., "Optimum Golomb Rulers," IEEE Trans on Computers, Vol. C-28, No. 12, December 1979, pp. 943-944.
21. Robinson, J.P. and M. Cohn, "Counting Sequences," IEEE Trans on Computers, Vol. C-30, No. 1, January 1981, pp. 17-23.
22. Robinson, J.P. and C-L Yeh, "A Method for Modulo-Two Minimization," IEEE Trans on Computers, Vol. C-31, No. 8, August 1982, pp. 800-801.

23. Robinson, J.P., "Addendum to "Optimum Golomb Rulers,"" IEEE Trans on Computers, Vol. C-32, No. 2, February 1983, p. 201.
24. Robinson, J.P., "Segmented Testing," IEEE Trans on Computers, Vol. C-34, No. 5, May 1985, pp. 467-471.
25. Robinson, J.P., "Golomb Rectangles," IEEE Trans on Information Theory, Vol. IT-31, No. 6, November 1985, pp. 781-787.
26. Maxted, J.C. and J.P. Robinson, "Error Recovery for Variable Length Codes," IEEE Trans on Information Theory, Vol. IT-31, No. 6, November 1985, pp. 794-801.
27. Saxena, N.R. and J.P. Robinson, "Accumulator Compression Testing", IEEE Trans on Computers, Vol. C-35, No. 4, April 1986, pp. 317-321.
28. Robinson, J. P. and N. R. Saxena, "A Unified View of Test Compression Methods," IEEE Trans on Computers, Vo. C-36, No. 1, January 1987, pp. 94-99.
29. Li, Y. K. and J.P. Robinson, "Space Compression Methods for Output Data Modification," IEEE Trans on Computer-Aided Design, Vol. CAD-6, No. 2, March 1987, pp. 290-294.
30. Robinson, J.P., W. D. Wade, P. K. Leong, and M. E. Mortara, "Generic Error Control Coding Modules," SIMULATION, Vol. 48, No. 6, June 1987, pp. 229-235.
31. Saxena, N. R., and J.P. Robinson, "Syndrome and Transition Count are Uncorrelated," IEEE Trans on Information Theory, Vol IT-34, No. 1, January 1988, pp. 64-69.
32. Tung, C. H. and J.P. Robinson, "A Fast Algorithm for Optimum Syndrome Space Compression," IEEE Trans on Computers, Vol. C-37, No. 2, February 1988, pp. 228-232.
33. Robinson, J. P. and N. R. Saxena, "Simultaneous Signature and Syndrome Compression," IEEE Trans on Computer-Aided Design, Vol. CAD-7, No. 4, April 1988, pp. 584-589.
34. Robinson, J. P., "Edges in the Poset of Partitions of an Integer," Journal of Combinatorial Theory - Series A, Vol 48, No. 2, July 1988, pp. 236-238.
35. Robinson, J. P., "Circular BIST Test Generation," Journal of Semicustom ICs, Vol 8, No. 1, September 1990, pp. 3-7.
36. Robinson, J. P, "A Non-Linear Pattern Generator for Testing Digital VLSI Circuitry," SIMULATION, Vol. 56, No. 3, March 1991, pp.179-184.

37. Edirisooriya, G. and J. P. Robinson, "Cyclic Code Weight Spectra and BIST Aliasing," *Journal of Electronic Testing*, Vol. 2, No. 2, June 1991, pp 153-163.
38. Robinson, J.P., "Aliasing Probabilities for Feedback Signature Compression of Test Data," *IEEE Trans on Computers*, Vol. C-40, No. 7, July 1991, pp. 867-873.
39. Edirisooriya, G. and J. P. Robinson, "Exact Closed Form Aliasing Probability in a Class of Multiple Input Signature Registers," *IEE Electronic Letters*, Vol 27, No. 17, August 1991, pp 1590-1592.
40. Lonngren, K. E., D. R. Andersen, and J. P. Robinson, "A Soliton Secure Lock and Key," *Optical Computing and Processing*, Vol 1, No.4 , 1991, pp 349-351.
41. Robinson, J. P. , " Aliasing Probability Transients," *Journal of Electronic Testing*, Vol. 3, No. 1, March 1992, pp 9-16.
42. Robinson, J. P. and D. R. Andersen, "Soliton Logic," *Optical Computing and Processing*, Vol 2, No. 1, March 1992, pp 57-61.
43. Hanna, M.T., A. Kia, and J. P. Robinson, "Digital Filters for Attenuating Interference Arriving from a Wide Range of Angles," *IEEE Trans on Signal Processing*, Vol 40, No. 6, June 1992, pp 1499-1507.
44. Edirisooriya, G. and J. P. Robinson, "Performance of Signature Registers in the Presence of Correlated Errors," *IEE Proceedings-E*, Vol. 139, No. 5, September 1992, pp 393-400.
45. Zimmerman, S. and J. P. Robinson, "Two-Level Cache Performance for Multiprocessors," *SIMULATION*, Vol. 60, No. 4, April 1993, pp 222-231.
46. Edirisooriya, G. and J. P. Robinson, "Test Generation to Minimize Error Masking," *IEEE Trans on Computer-Aided Design*, Vol. CAD-12, No. 4, April 1993, pp 540-549.
47. Edirisooriya, G. and J. P. Robinson, "Aliasing Properties of Circular MISRs," *Journal of Electronic Testing*, Vol. 4, No. 2, May 1993, pp 151-158.
48. Robinson, J.P., "Golomb Rectangles as Folded Rulers," *IEEE Trans on Information Theory*, Vol. IT-43, January 1997, No. 1, pp 290-293.
49. Robinson, J.P., "Genetic Search for Golomb Arrays," *IEEE Trans on Information Theory*, Vol. IT-46, No. 3, May 2000, pp 1170-1173.

50. A. J. Gavin, T. E. Sheets, C.A. Roberts, B. O'leary, T.A. Braun, V.C. Sheffield, M. B. Soares, J. P. Robinson, T.L. Casavant, "Creation and Identification of Pooled Library Tissue Tags for EST-based Gene Discovery," Bioinformatics, Vol 18, No. 9, September 2002, pp. 1162-1166.
51. Scheetz, T.E., N Trivedi, C A Roberts, T Kucaba, B Berger, N L Robinson, C L Birkett, A J Gavin, B O'Leary, T A Braun, M F Bonaldo, J P Robinson, V C Sheffield, M B Soares and T L Casavant, "ESTprep: Preprocessing cDNA Sequence Reads," Bioinformatics, Vol. 19, No. 11, July 2003, pp. 1318-1324.

C. Other Technical Papers and Presentations

1. Freiman, C.V., A. D. Wyner and J. P. Robinson, "Redundancy Requirements for the Correction of Finite State Error Patterns," National Electronics Conference Proceedings, Vol. 20, 1964, pp. 687-692.
2. Freiman, C.V. and J. P. Robinson, "An Analytic Comparison of Block and Recurrent Codes for the Correction of Independent Errors", IEEE Communications Convention Record, Vol. 1, June 1965, pp. 569-572.
3. Robinson, J.P., "The Construction of all Linear Uniform Codes," Proceedings of the Princeton Conference on Information Sciences and Systems, March 1967, pp. 333-335.
4. Robinson, J.P., "Analysis of Nordstrom's Optimum Quadratic Code," Proceedings of the First Annual Hawaii International Conference on System Sciences, January 1968, pp. 157-160.
5. Reddy, S.M. and J. P. Robinson, "Some Rate 1/2 Convolutional Codes," Proceedings of the Princeton Conference on Information Sciences and Systems, March 1968, pp. 139-143.
6. Shehadeh, N.M. and J. P. Robinson, "Some Binary Codes for Simultaneous Burst-Error and Random Correction," Proceedings of the Princeton Conference on Information Sciences and Systems, March 1968, p. 148.
7. Robinson, J.P., "A Hamming-Like Bound for a Sub-Class of Convolutional Codes," Invited Paper, Proceedings of the Midwest Symposium on Circuit Theory, May 1968, p. 598.
8. Robinson, J.P. "Testable Hazard-Free Logic Realizations Using Gates," Proceedings of the Princeton Conference on Information Sciences and Systems, March 1969, p. 503.

9. Gault, J.W., J. P. Robinson and S. M. Reddy, "Multiple Fault Detection in Combinational Networks," Workshop on Reliability and Maintainability of Computer Systems, IEEE Computer Group, Lake of the Ozarks, Missouri, October 20-22, 1969.
10. Reddy, S.M. and J. P. Robinson, "Hybrid Self-Orthogonal Convolutional Codes," Proceedings of Princeton Conference on Information Sciences and Systems, March 1970, p. 12.
11. Reddy, S.M. and J. P. Robinson, "Linear Convolutional Codes for Compound Channels," Proceedings of the Mervin J. Kelly Communications Conference, October 1970, pp. 1-4.
12. Hoffner, C.W. and J. P. Robinson, "Short-Burst Variable-Rate Convolutional Codes," Proceedings of the National Electronic Conference, December 1970, pp. 452-455.
13. Reddy, S.M. and J. P. Robinson, "Random-Error and Burst Correction by Iterated Codes," Hawaii International Conference on Systems Sciences Proceedings, January 1971.
14. Dandapani, R., S. M. Reddy and J. P. Robinson, "Testable Design of Three Level Logic Networks," Proceedings of Princeton Conference on Information Sciences and Systems, March 1971, p. 315.
15. Alton, E.D., K. E. Lonngren, N. R. Malik and J. P. Robinson, "A Laboratory Sequence for Individuals," Seventh Asilomar Conference, November 20-23, 1973.
16. Robinson, J.P., "Privacy Based Computer Design Using Microprocessors," Proceedings IEEE MIMI 76, November 1976, pp. 217-220.
17. Coraor, L.D. and J. P. Robinson, "Using Parallel Microprocessors in Tree Decisions Problems," Proceedings IEEE MIMI 76, November 1976, pp. 51-55.
18. Robinson, J.P. and D. S. Raju, "A Quadratic Convolutional Code," Proceedings Allerton Conference on Communication, Control and Computing, September 1977, p. 448.
19. Coraor, L.D. and J. P. Robinson, "List Searches Using Multiple Processors," Proceedings Allerton Conference on Communication, Control and Computing, Sept 1977, p. 162.
20. Robinson, J.P., "Security and Computer Systems," Invited presentation, Third National Symposium on Computer Science, Instituto Tecnológico de Monterrey, Monterrey, Mexico, April 1978.

21. Coraor, L.D. and J. P. Robinson, "Parallel Sorting," Proceedings Allerton Conference on Communication, Control and Computing, October 1978, p. 585.
22. Robinson, J.P., "Some Properties of the NBS Data Encryption Standard," Proceedings Allerton Conference on Communication, Control and Computing, October 1978, p. 315.
23. Robinson, J.P., "Hardware Design and Validation," IEEE Computer Society Workshop on Laboratories for Reliable Systems Research, NASA Langley, April, 1983.
24. Saxena, N.R. and J. P. Robinson, "Accumulator Compression Testing," International Symposium on Fault-Tolerant Computing 15, June, 1985, pp. 300-305.
25. Robinson, J. P. and N. R. Saxena, "Counting and Signatures are Almost Orthogonal," Proceedings Technical Workshop, New Directions for IC Testing, Victoria BC, March 1986, pp. 4-1 to 4-16.
26. Robinson, J. P. and K. Narayan, "VLSI/LSI Testing: A View from the Tower," ELECTRO 86.
27. Robinson, J.P., Wade, W.D. Leong, P. and M. Mortata, "Generic Error Control Coding Modules," Summer Computer Simulation Conference, July 1986.
28. Robinson, J.P., "Panel-Trends in the Simulation of Signal Processing Systems," Summer Computer Simulation Conference, July 1986.
29. Tung, C-H. and J. P. Robinson, "Concurrently Testable Microprogrammed Control Units," International Test Conference Proceedings, September 1986, pp. 895-900.
30. Tung, C-H. and J. P. Robinson, "Design of Concurrently Testable Microprogrammed Control Units," International Conference on Computer Design Proceedings, October 1986, pp. 492-495.
31. Robinson, J.P. and N. R. Saxena, "Signatures and Syndromes are almost Orthogonal," chapter in Developments in Integrated Circuit Testing, D.M. Miller Editor, Academic Press, 1987, pp. 147-168.
32. Robinson, J.P. and N. R. Saxena, "Syndromes and Transition Count are Uncorrelated," IEEE International Symposium on Information Theory, Kobe, Japan, June 1988.
33. Robinson, J.P., "Test Design and Boundary Scan," Southcon 89 Conference Record, March 1989, pp. 164-167.

34. Robinson, J.P., "Circular Built-In Self-Test," Northcon 89 Conference Record , October 1989, pp. 290-294.
35. Robinson, J.P., "Some Aspects of Circular BIST," Invited Paper, Proceedings Technical Workshop, New Directions for IC Testing, Victoria BC, October 1989, pp. 55-66.
36. Edirisooriya, G. and J. P. Robinson, "Aliasing Probability in Multiple Input Linear Signature Automata for Q-ary Symmetric Errors," International Conference on Computer Design Proceedings, October 1991, pp. 352-355.
37. Edirisooriya, G. and J. P. Robinson, "Design of Low Cost ROM Based Test Generators," IEEE VLSI Test Symposium, Atlantic City, New Jersey, April 1992.
38. Edirisooriya, G. and J. P. Robinson, "Aliasing in Multiple-Valued Test Data Compaction," International Symposium on Multiple-Valued Logic Proceedings, Sendai Japan, May 1992, pp 43-50.
39. Edirisooriya, G. and J. P. Robinson, "A New Built-In Self-Test Method Based on Prestored Testing," IEEE VLSI Test Symposium, Atlantic City, New Jersey, April 1993, pp. 10-16.
39. Edirisooriya, G. and J. P. Robinson, "Time and Space Correlated Errors in Signature Analysis," IEEE VLSI Test Symposium, Atlantic City, New Jersey, April 1993, pp. 275-281.
40. Robinson, J. P., "Simulation of Communication Systems," Fallcon '93, Cedar Rapids, Iowa, November 1993.
41. Robinson, J.P., "Enhanced HF Channel Utilization," Sixth Rockwell Conference on Control and Signal Processing, p. 279, Anaheim, CA, March 1994.
42. Robinson, John P. and Edward M. Moldt , " Technological Entrepreneurship Certificate," ASEE 2000 Conference Record, St. Louis, Missouri, June 2000, 4 pages.

D. Reviews

1. "On the Error Correction Capacity of Finite Automata," M.A. Harrison in IEEE Transactions on Electronic Computers, Vol. EC-15, No. 1, February 1966, p. 128.
2. "Error Correction Codes," edited by H.B. Mann, in American Scientist, autumn 1969, pp. 266A-267A.
3. "A Procedure for Selecting Diagnostic Tests," T.J. Powell, in IEEE Transactions on Computers, Vol. C-19, No. 7, July 1970, p. 660.

E. Poems

1. Robinson, J. P., "Mongoose," *Anthology of New England Writers*, Vol VI, 1994, p. 24.