Robert J. Marks II

Curriculum Vitae

September 16, 2011

Contents

1 Education

- ◇ Ph.D., Electrical Engineering, Texas Tech University, 1977
- ◇ M.S., Electrical Engineering, Rose-Hulman Institute of Technology, 1973
- ◇ B.S., Engineering, Rose-Hulman Institute of Technology, 1972

2 Contact Information

- ◇ Email: Robert_Marks@Baylor.edu
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- ◇ Office: Baylor Campus, Rogers Bldg. 305C
- ◇ Office Phone: (254) 710-7302
- ◇ Mailing Address: One Bear Place #97356, Waco, TX 76798-7356

3 Employment History

- ◇ 2003-present: Distinguished Professor of Electrical and Computer Science, Baylor University.
  - ○ 2003-2005: Graduate Program Director, Departments of Mechanical and Electrical & Computer Engineering, Baylor University.
  - ○ 2004-2008: Baylor Christian Graduate Student/Faculty Fellowship, Faculty Advisor.
  - ○ 2004-2007: University Tenure Committee, Chair (2006-2007), Member (2004-2006).
  - ○ 2008-2009: ECE Tenure Track Faculty Search Committee, Chair.
  - ○ 2008-2009: ECE Lecturer Search Committee, Chair.
  - ○ 2008-present: ECE Tenure Policy Committee, Chair.
  - ○ 2008-present: IEEE Baylor Student Branch, Faculty Advisor.
  - ○ 2009-present: Baylor Compensation, Benefits, and Personnel Committee, Member.
- ◇ 1987-2003: Professor of Electrical Engineering, University of Seattle, Washington.
- ◇ 1982-1987: Associate Professor of Electrical Engineering, University of Seattle, Washington.
- ◇ 1978-1982: Assistant Professor of Electrical Engineering, University of Seattle, Washington.
- ◇ 1975-1977: Research Assistant, Texas Tech University, Lubbock, Texas.
- ◇ 1974-1975: Reliability Engineer, Crane Naval Weapons Depot, Crane, Indiana.
- ◇ 1972-1973: Graduate Student Teaching Assistant, Rose-Hulman Institute of Technology, Terre Haute, Indiana.
- ◇ 1970-1975: Disc Jockey, WPFR, Terre Haute, Indiana.
- ◇ 1968-1972: Student, Rose-Hulman Institute of Technology, Terre Haute, Indiana.

4 Honors and Awards

- ◇ Fellow of the Optical Society of America (OSA)[1]
- ◇ Fellow of the Institute of Electrical & Electronic Engineers (IEEE)[2]
- ◇ Honorary Inductee: Junior Membership in the Ohio Academy of Science (at the age of eighteen)
- ◇ IEEE Distinguished Lecturer
- ◇ Honorary Member: Puget Sound Section of the Optical Society of America
- ◇ IEEE Centennial Medal and Certificate
- ◇ IEEE Outstanding Branch Counselor/Advisor Award
- ◇ Charter President of the IEEE Neural Networks Council
- ◇ Rose-Hulman Institute of Technology Outstanding Young Alumni Award
- ◇ Texas Tech Electrical Engineering Academy
- ◇ IEEE Neural Networks Council Meritorious Service Award
- ◇ IEEE CASS (Circuits and Systems Society) Golden Jubilee Medal
- ◇ Judith Stitt Award, American Brachytherapy Society 23rd Annual Meeting (2001)
- ◇ NASA Tech Brief Award (2004)
- ◇ Pioneer in Neural Network Award (IJCNN) (2006)
- ◇ IEEE Dallas Section Volunteer of the Year Award (2007)
- ◇ *Access Research Network* top award for the "Top 10 Darwin and Design Science Stories" for 2009.[3]
- ◇ CollegeCrunch.org. "The 20 Most Brilliant Christian Professors," April 4, 2010.[4]
- ◇ SuperScholar.org. "The 20 Most Influential Christian Scholars," 2010.[5]
- ◇ Honorary Conference Positions

[1] "For contributions to image recovery and synthesis, optical processing, and eletro-optical neural networks."

[2] "For leadership and contributions to the field of neural networks."

[3] "*Access Research Network* has just released its annual 'Top 10 Darwin and Design Science Stories' for 2009. Gaining top honors on the list was a peer-reviewed article by intelligent design theorists William Dembski and Robert Marks II in the September 2009 journal IEEE Transactions on Systems, Man and Cybernetics. The authors used computer simulations and information theory to challenge the ability of neo-Darwinian processes to create new functional genetic information."

[4] "The professors listed here are all 'brilliant' in the original sense of the wordthey shine brightly among their peers as towering figures in the academic world. In addition, they are all Christians who do not hide their Christianity and see it as significantly impacting their intellectual work." "Robert J. Marks II, Distinguished Professor of Electrical and Computer Engineering at Baylor University. A founder of the field of computational intelligence (comprising fuzzy sets, neural networks, and evolutionary computing), Marks has published hundreds of articles on an very wide range of problems (everything from optimal detection of non-Gaussian noise to proper placement of radioactive inserts to treat prostate cancer). His work has enormous practical implications that are felt every dayall major North American utilities deliver energy using his work on neural networks. An Christian intent on understanding teleology in nature, Marks founded the Evolutionary Informatics Lab, which publishes peer-reviewed scientific papers supporting the controversial theory of intelligent design."

[5] "Super Scholars 20 most influential Christian scholars have profoundly influenced the world by advancing Christian belief, by reconceptualizing it, or even by fundamentally challenging it. In any case, each of the thinkers below has deeply impacted Western cultures self-understanding." "Robert J. Marks II (b. 1950), Baylor Universitys leading research professor, has emerged as the public face of intelligent design. As the movements premier scientist, he has been dubbed the Charles Darwin of intelligent design. At one point, his research on intelligent design was removed by Baylor officials from the universitys website. Since then he has published seminal work on such themes as whether computers have minds and whether Darwinian processes can generate biological information. He is widely quoted as saying, Computers are no more able to create information than iPods are capable of creating music. His Law of Conservation of Information purports to demonstrate inherent limitations on natural selection, suggesting that the intricate information needed for life requires an intelligent source."

- International Advisory Chair. The RNNS [Russian Neural Network Society] IEEE Symposium on Neuroinformatics and Neurocomputing Rostov-on-Don , Russia , October 7-10, 1992,
- International Advisory Co-Chair. International Joint Conference on Neural Networks (IJCNN), Beijing, China. November 1992
- International Advisory Committee Member. International Joint Conference on Neural Networks (IJCNN), Nagoya, Japan, October 25-29, 1993.
- International Conference on Neural Information Processing (ICONIP '95), October 30 - November 3, 1995, Beijing China. International Advisory Committee, Member.
- 1993 IEEE/Tsukuba International Workshop on Advanced Robotics, November 8-9, 1993, AIST Tsukuba, Japan - Advisory Committee
- Honorary Program Committee Member. IEEE/IAFE [International Association of Financial Engineers] Computational Intelligence in Financial Engineering, (CIFEr).
  - † Nashville, TN, March 30-April 2, 2009,
  - † Paris, France, April 11-15, 2011.
- Advisory Committee. Sixth International Symposium on Neural Networks (ISNN 2009) Wuhan, China, May 26-29, 2009

5 Professional Societies

5.1 Publications

◇ IEEE

- IEEE Transactions on Neural Networks, Editor-in-Chief (1992-1997)
- IEEE Transactions on Fuzzy Systems, Associate Editor (1993-1999)

◇ Optical Society of America

- Topical Editor, Journal of the Optical Society of America A: Optics and Image Science in Optical Signal Processing and Image Science (1990-92).

◇ Other

- International Journal of Computer Vision & Signal Processing (2011-present)
- Bio-Complexity, Editorial Board Member (2010-present) [http://bio-complexity.org/]
- International Journal of Neurocomputing, Editorial Board Member (1989-1992).
- Australian Journal of Intelligent Information Processing Systems, Editorial Board Member (1994-2007).
- Journal of Advanced Computational Intelligence, (ACI), Fuji Press Co., Tokyo, Editorial Board Member (1996-present).
- Association for Computing Machinery, The ACM SIGART Magazine of Intelligent Machinery, Editorial Board, (1996-2000).
- JOURNAL OF SAMPLING THEORY IN SIGNAL AND IMAGE PROCESSING-An International Journal, Editorial Board Member (2000-present).
- JOURNAL OF ENGINEERING RESEARCH, International Advisory Editorial Board (2002-present).
- International Journal of Soft and Intelligent Computing and Mathematics, Editorial Board Member (2008-2009).
- International Journal of Artificial Life Research, Editorial Board Member (2009-present).

5.2 Administrative

- ◇ IEEE Technical Activities Board
  - ○ Technical Activities Board, Member (1990-91).
  - ○ IEEE Technical Activities Board New Technology Directions Committee (1991 - Member).
  - ○ IEEE TAB Meetings Council (1992 -member).
  - ○ Division X Director Nominating Committee (1992 - Chair).
  - ○ TAB Periodicals Council ad hoc Subcommittee on Budgetary Needs (1993 - Member).
  - ○ TAB Transactions Committee (1996 - member).
- ◇ IEEE Computer Society
  - ○ Task Force on Virtual Intelligence
- ◇ IEEE LEOS
  - ○ Representative to the IEEE Neural Networks Council (1994-96).
- ◇ IEEE Power Engineering Society
  - ○ Representative to the IEEE Neural Networks Council (2002-04).
- ◇ IEEE Circuits and Systems Society
  - ○ Fellows Committee (2004)
  - ○ Vice-President of Administration (2003-04)
  - ○ Chair, Administrative Activities Committee (2004).
  - ○ Board of Governors (1994-99, 2000-02)
  - ○ Restructuring and Best Practices Committee (Chair 2002).
  - ○ Society Parliamentarian (2001-04)
  - ○ CASS Policies and Procedures Formation Committee, Chair (2003, 2004).
  - ○ Budget Committee, Chair (2003, 2004).
  - ○ Technical Society on Neural Systems and Applications in the IEEE Circuits and Systems Society
    - † Co-Founder (1987)
    - † First Chair (1987-89)
  - ○ Darlington Award Committee (1996)-member
  - ○ CAS Publications Steering Committee (1996-97) member
  - ○ Constitution & Bylaws Committee (2000 member; 2002-03 Chair).
  - ○ Restructuring Committee (2001-02) member
  - ○ Representative to the IEEE Neural Networks Council (1996-98).
  - ○ Representative to the IEEE Neural Networks Committee (1987-88).
- ◇ IEEE Nanotechnology Council
  - ○ AdCom Member (2004-06)
- ◇ IEEE Computational Intelligence Society
  - ○ Awards Chair (2004-05)
  - ○ AdCom Member (2004-07)
  - ○ Fellows Committee (Member, 2004-05 ; Chair 2006)

- Representative to the IEEE Nanotechnology Council (2004-06)
- Technical Committee of Neural Networks Member (2004-06)
- Founder and First Chair, CIS Chapter of the Dallas IEEE Section (2006-07).

◇ IEEE Neural Networks Society

- AdCom Member (2002-4).
- Technical Activities Committee (Member 2002)

◇ IEEE Neural Networks Council

- (first) President, (1990-91)
- Past President (1992-93)
- Nomination Committee Chair (1992-93)
- Constitution & Bylaws Committee Chair (1997)
- Technical Committees (member)
  - † Neural Networks Technical Committee (1996-present)
  - † Computational Finance Technical Committee (1995-2000)
  - † Awards Committee (member, 1997, 1999-2001)
  - † Fellows Evaluation Committee (member, 1997-2001)
  - † Publications Committee (member, 1999)
- Projects initiated during this period.
  - † The International Conference of Fuzzy Systems (FUZZ-IEEE).
  - † The Neural Networks Newsletter (CoNNections).
  - † The Neural Networks Council Forum meeting series.
  - † Neural Network Council Book Series (IEEE Press).
  - † IEEE Neural Networks Council Pioneer Awards.
  - † The IEEE Transactions on Fuzzy Systems.
  - † The World Congress on Computational Intelligence
  - † IEEE Neural Networks Standards Committee.
  - † IEEE Neural Networks Distinguished Lecture Program.

◇ IEEE Neural Networks Committee

- Chair (1989)
- Chair pro tem (1988-89)
- Secretary (1988).
- Ad Hoc Committee for founding the IEEE Transactions on Neural Networks (Chair)
- Projects initiated during Chairmanship
  - † The IEEE Transactions on Neural Networks.
  - † The first International Joint Conference of Neural Networks.

◇ IEEE

- Faculty Advisor to UW Student Section (1978-81).
- Faculty Advisor to Baylor Student Section (2008-present).

◇ Optical Society of America

- Puget Sound Section of the Optical Society of America
  - † Co-Founder (1987).
  - † First President (1987-88).
  - † (First) Honorary Member (1988).

5.3 Conferences

- ◇ IEEE Conference on Computational Intelligence for Financial Engineering & Economics (CIFEr)
  - ○ New York , New York , April 9-11, 1995 , Program Co-Chair
  - ○ New York , New York , March 24-26, 1996 , Co-Chair
  - ○ New York , New York , April 9-11, 1997 , Co-Chair
  - ○ New York , New York , March 29-31, 1998 , Co-Chair
  - ○ Nashville, TN, March 30April 2, 2009, Honorary Program Committee Member
  - ○ Paris, France, April 11-15, 2011, Honorary Program Chair
- ◇ IEEE World Congress on Computational Intelligence
  - ○ Orlando , FL , July 1994, Technical Program Director
  - ○ Anchorage , AL , 1998, Tutorials Chair
- ◇ Information Processing by Neural Networks, (IP+NN ' 97), October 10-17, 1997, Ukraine, Crimea, Gurzuf Russian Academy of Science, Russian Neural Network Society, International Academy of Computer Science; Program Co-Chair.
- ◇ IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)
  - ○ Yokohama , Japan , March 20 to March 24, 1995, International Program Committee
  - ○ Seoul , Korea , August 22-25, 1999, International Organizing Committee Member
- ◇ IEEE Virtual Reality Annual International Symposium (VRAIS)
  - ○ 1993 Seattle, (first) Organizing Chair
  - ○ 1995 Research Triangle Park , NC , Organization Chair
- ◇ The RNNS [Russian Neural Network Society] IEEE Symposium on Neuroinformatics and Neurocomputing
  - ○ Rostov-on-Don , Russia , October 7-10, 1992, International Advisory Chair
  - ○ Rostov-on-Don , Russia , October 9-11, 1995 , Program Co-Chair
- ◇ IEEE-SP International Symposium on Time-Frequency and Time-Scale Analysis, Victoria , BC; October 4-6, 1992, Organization Chair
- ◇ International Forum on Applications of Neural Networks to Power Systems. July 23-26, 1991, Seattle , WA.
  - ○ Technical Program Chair
  - ○ Tutorial Chair
  - ○ Host Committee, Member
  - ○ Potentials & Challanges of Neural Network Applications to Power, Systems, Panel Member
- ◇ International Workshop on Artificial Neural Networks (IWANN ' 93), June 9-11, 1993, Barcelona, Spain , (sic) Programme Committee Member
- ◇ International Conference on Neural Networks (ICNN)
  - ○ 1988 San Diego ICNN, Program Committee Member
  - ○ 1993 San Francisco ICNN, Program Committee Member
  - ○ 1994 Perth ICNN, Program Co-Chair

- ◇ International Joint Conference on Neural Networks (IJCNN)
  - ○ 1989 Washington D.C. IJCNN, January 1989, Planning Committee Member
  - ○ 1991 Singapore IJCNN, 18-21 Nov. 1991, Technical Program Committee Member
  - ○ IEEE Neural Networks President' s Forum, Moderator, at the 1991 Seattle IJCNN (Tuesday, July 9, 1991) - Presidents of Chinese, European, Japanese and Russian neural network professional societies - (presentation and panel discussion).
  - ○ 1992 Beijing IJCNN, November 1992, International Advisory Co-Chair.
  - ○ 1993 Nagoya (Japan) IJCNN, October 25-29, 1993.
    - † Program Committee Co-Chair
    - † Advisory Committee Member
  - ○ 2000 Como , Italy IJCNN, July 24-27, 2000 .
    - † Special Sessions Chair
- ◇ IEEE International Symposium on Circuits and Systems (ISCAS)
  - ○ 1987 ISCAS, Philadelphia (May 6, 1987), Artificial Neural Systems and Applications, Session Organizer and Co-Chair
  - ○ 1989 ISCAS, 9 May 1989 , Portland., Neural Networks Session Chair
  - ○ 1994 ISCAS, London , Program Committee Member
  - ○ 1995 ISCAS, Seattle, General Chair
  - ○ 1996 ISCAS, Atlanta , Steering Committee Member
- ◇ New Zealand International Two-Stream Conference on Artificial Neural Networks and Expert Systems (ANNES)
  - ○ Programme Committee -member; (ANNES '93), November 24-26, 1993 , Otage University , Dunedin , New Zealand .
  - ○ International Programme Committee -member; (ANNES '94), November 20-23, 1995 , University of Otago , Dunedin , New Zealand.
- ◇ American Mathematical Society
  - ○ 1051st AMS Meeting, Baylor University, October 16-18, 2009, Session Co-Organizer (with John Davis and Ian Gravagne): Dynamic Equations on Time Scales: Analysis and Applications.
- ◇ IEEE Symposium on Swarm Intelligence, Pasadena, March 2005 (Steering Committee Chair)
- ◇ National Faculty Leadership Conference (National CLM Meeting)
  - ○ June 24-27, 2004, Washington, D.C., The Christian World View in Engineering and Technology, Program Committee Chair
- ◇ Sixth International Symposium on Neural Networks (ISNN 2009) Wuhan, China, May 26-29, 2009, Advisory Committee Member.
- ◇ International Symposium on Intelligent Decision Technologies,
  - ○ IDT 2010, Baltimore, USA, 28 - 30 July 2010, International Programme Committee
- ◇ Other
  - ○ Workshop on the Future Directions for Optical Information Processing, Texas Tech University , Lubbock (May 1980), Panel Discussion leader for "Space-variant coherent optical processing"

- Limits of Passive Imaging Workshop, Mackinac Hotel, Mackinac Island, MI (May 24-26,1983), Chair of Processing Group
- Workshop on Optical Artificial Intelligence, Gold Lake , Colorado (3-5 August, 1987), Chair of Working Group on Perception.
- WVU Neural Network Symposium, West Virginia University , Morgantown , (15-16 June, 1989), Panel Discussion Member
- First Workshop in Neural Networks, Auburn University Hotel & Conference Center, 5-6 February, 1990, Panel Discussion Member, "Application of neural networks and the future".
- Conference on Active Materials and Adaptive Stuctures , Washington D.C., (Nov. 6-8, 1991), Session Committee Member
- Annual IEEE Seattle Section Pizza Feed, February 20, 1991 , South Campus Center Auditorium, Master of ceremonies
- Pacific Gas & Electric R&D Electric Distribution Program External Advisory Goup Meeting, Silverado Country Club, Napa Valley , California , (August 22-23, 1991).
- Fuzzy Logic & Intelligent Systems Seminar, Boeing Computer Services, Red Lion Inn, Bellevue, WA, December 2, 1991, Panel Discussion: Moderator.
- International Workshop on Artificial Neural Networks, June 9-11, 1993 , Sitges (Barcelona), Spain , Program Committee -member.
- 1995 Workshop on Sampling Theory & Applications, September 20-22, 1995 , Jurmala (Riga), Latvia , Program Committee -member
- 1996 IEEE International Workshop on Neural Networks for Identification, Control, Robotics and Signal/Image Processing (NICROSP), September 21-23, 1996, Venice, Italy, Program Committee -member
- 30th International Symposium on Automotive Technology and Automation, Dedicated Conference on Megatronics, Florence Italy , 16-19 June 1997, Programme Committee member.
- The Fourth International Conference on Neural Information Processing – The Annual Conference of the Asian Pacific Neural Network Assembly, jointly with The Fifth Australian and New Zealand International Conference on Intelligent Information Processing Systems, and The Third New Zealand International Conference on Artificial Neural Networks and Expert Systems 24-28 November, 1997, Dunedin/Queenstown, New Zealand; program committee member.
- The IEEE International Electric Machines and Drives Conference (IEEE-IEMDC), 9-12 May, 1999, Seattle, WA , Publicity Chair & Publications Chair.
- American Scientific Affiliation (ASA) 64th Annual Meeting, Baylor University (Sunday, August 2, 2009), Session Chair (Origins).

5.4 Technical Review

This list has not been updated since 2000.

- Publisher's book reviewer for Academic Press, CRC Press, Prentice Hall, Springer-Verlag, IEEE Press, Computer Society Press, John Wiley & Sons.
- Proposal review for National Sciences & Engineering Research Council of Canada; National Science Foundation; EPRI; NSF Small Business Initiation Research; the Chinese University of Hong Kong; The Hong Kong Chinese Polytechnic Institute.
- Conference reviewer for Artificial Neural Networks in Engineering (ANNIE); IEEE Power Engineering Society PICA, The First New Zealand International Two-Stream Conference on Artificial Neural Networks and Expert Systems; Midwest Symposium on Circuits & Systems; International Symposium on Circuits & Systems, International Joint Conference on Neural Networks; International Symposium on Circuits and Systems; IEEE International Conference of Fuzzy Systems; International Workshop

on Artificial Neural Networks; RNNS/IEEE Symposium on Neuroinformatics and Neurocomputing; International Forum on Applications of Neural Networks to Power Systems; International Symposium on Circuits and Systems; International Workshop on Artificial Neural Networks; New Zealand International Two-Stream Conference on Artificial Neural Networks and Expert Systems; International Conference on Neural Networks, Speech and Image Processing, IEEE Conference of Computational Intelligence for Financial Engineering (CIFEr).

- ◇ Journal reviewer for Applied Optics; Journal of the Optical Society of America; Journal of the Optical Society of America-A; Sensors and Actuators A: Chemicals; IEEE Signal Processing Letters; IEEE Spectrum; Journal of Intelligent & Fuzzy Systems; Optical Engineering; Proceedings of the IEEE; IEEE Transactions on Acoustics, Speech & Signal Processing; IEEE Transactions on Circuits & Systems; IEEE Transactions on Circuits & Systems, Part I; IEEE Transactions on Fuzzy Systems; IEEE Transactions of Signal Processing; International Conference on Neural Networks; Optics Letters; IEEE Transactions on Information Theory; IEEE Transactions Power Engineering; IEEE Transactions on Neural Networks; IEEE Transactions on Systems, Man & Cybernetics; Computer Vision, Gra ph ics & Image Processing; International Journal of Approximate Reasoning; IEE Proceedings on Vision, Image and Signal Processing; Journal of Fourier Analysis & Applications; Journal of Microcomputer Applications; IEEE Computer Magazine.
- ◇ External reviewer for Louisville State University; The Indian Statistical Institute, Calcutta; National University of Singapore; Technion - Israel Institute of Technology, University of New Mexico, Ohio State University, Oregon Graduate Center, Purdue University, University of Houston, Utah State University, The Hong Kong University of Science and Technology, Texas Tech University, University of Rhode Island, The University of Texas at Austin, The Technical University of Nova Scotia, Natural Selection Corp.

6 Publications

Reprints of many of these papers can be downloaded from RobertMarks.org.

6.1 Books

1. R.J. Marks II, Introduction to Shannon Sampling and Interpolation Theory, (Springer-Verlag, 1991, ISBN 0-387-7391-5 and 3-540-97391-5).
2. M.A. El-Sharkawi and R. J. Marks II, Editors, Applications of Neural Networks to Power Systems, (IEEE Press, Piscataway, 1991).#
3. R.J. Marks II, Editor, Advanced Topics in Shannon Sampling and Interpolation Theory, (Springer-Verlag, 1993, ISBN 0-387-97906-9; 3-540-97606-9).
4. R.J. Marks II, Editor, Fuzzy Logic Technology and Applications, (IEEE Technical Activities Board, Piscataway, 1994, ISBN 0-7803-1383-6).
5. Jacek Zurada, R.J. Marks II and C.J. Robinson; Editors, Computational Intelligence: Imitating Life, (IEEE Press, 1994).
6. Marimuthu Palaniswami, Yianni Attikiouzel, Robert J. Marks II, David Fogel and Toshio Fukuda; Editors, Computational Intelligence: A Dynamic System Perspective, IEEE Press, 1995, ISBN 0-7803-1183-5).
7. Russell D. Reed and R.J. Marks II, Neural Smithing: Supervised Learning in Feedforward Artificial Neural Networks, (MIT Press, Cambridge, MA, 1999.)
8. R.J. Marks II, Handbook of Fourier Analysis and Its Applications, Oxford University Press, (2009).

6.2 Journal Articles

1. R.J. Marks II and T.F. Krile, "Holographic representations of space-variant systems: system theory", Applied Optics, vol. 15, #9, pp.2241-2245 (1976).

2. R.J. Marks II, J.F. Walkup and M.O. Hagler, "A sampling theorem for space-variant systems", Journal of the Optical Society of America, vol. 66, pp.918-921 (1976).

3. R.J. Marks II, J.F. Walkup, and M.O. Hagler, "Line spread function notation", Applied Optics, vol. 15, pp.2289-2290 (1976).

4. R.J. Marks II, J.F. Walkup, M.O. Hagler and T.F. Krile, "Space-variant processing of one-dimensional signals", Applied Optics, vol. 16, pp.739-745 (1977).

5. R.J. Marks II, J.F. Walkup and M.O. Hagler, "Ambiguity function display: an improved coherent processor", Applied Optics, vol. 16, pp.746-750 (1977).

6. T.F. Krile, R.J. Marks II, J.F. Walkup and M.O. Hagler, "Holographic representations of space - variant systems using phase-coded reference beams", Applied Optics, vol. 16, pp.3131-3135 (1977).

7. R.J. Marks II and S.V. Bell, "Astigmatic processor analysis", Optical Engineering, vol. 17, pp.157-169 (1978).

8. R.J. Marks II, J.F. Walkup and M.O. Hagler, "Sampling theorems for linear shift-variant systems", IEEE Transactions on Circuits and Systems, vol. CAS-25, pp.228-233 (1978).

9. R.J. Marks II, G.L. Wise, D.G. Haldeman and J.L. Whited, "Detection in Laplace noise", IEEE Transactions on Aerospace and Electronic Systems, vol. AES-14, pp.866-872 (1978).

10. R.J. Marks II, J.F. Walkup and M.O. Hagler, "Methods of linear system characterization through response cataloging", Applied Optics, vol. 18, pp. 655-659 (1979).

11. R.J. Marks II, M.I. Jones, E.L. Kral and J.F. Walkup, "One-dimensional linear coherent processing using a single optical element", Applied Optics, vol. 18, pp.2783-2786 (1979).

12. R.J. Marks II and J.N. Larson, "One-dimensional Mellin transformation using a single optical element", Applied Optics, vol. 18, pp.754-755 (1979).

13. R.J. Marks II and M.W. Hall, "Ambiguity function display using a single one-dimensional input", Applied Optics, vol. 18, pp.2539-2540 (1979).

14. R.J. Marks II, "Two-dimensional coherent space-variant processing using temporal holography", Applied Optics, vol. 18, pp.3670-3674 (1979).

15. R.J. Marks II, "Coherent optical extrapolation of two-dimensional signals: processor theory", Applied Optics, vol. 19, pp.1670-1672 (1980).

16. M.O. Hagler, R.J. Marks II, E.L. Kral, J.F. Walkup and T.F. Krile, "Scanning technique for coherent processors", Applied Optics, vol. 19, pp.1670-1672 (1980).

17. R.J. Marks II, "Sampling theory for linear integral transforms", Optics Letters, vol. 6, pp.7-9 (1981).

18. R.J. Marks II, "Gerchberg's extrapolation algorithm in two dimensions", Applied Optics, vol. 20, pp.1815-1820 (1981).

19. D.K. Smith and R.J. Marks II, "Closed form bandlimited image extrapolation", Applied Optics, vol. 20, pp.2476-2483 (1981).

20. R.J. Marks II and M.W. Hall, "Differintegral interpolation from a bandlimited signal's samples", IEEE Transactions on Acoustics, Speech and Signal Processing, vol. ASSP-29, pp.872-877 (1981).

21. R.J. Marks II and M.J. Smith, "Closed form object restoration from limited spatial and spectral information", Optics Letters, vol. 6, pp.522-524 (1981).

22. R.J. Marks II, "Posedness of a bandlimited image extension problem in tomography", Optics Letters, vol. 7, pp.376-377 (1982).

23. D. Kaplan and R.J. Marks II, "Noise sensitivity of interpolation and extrapolation matrices", Applied Optics, vol. 21, pp.4489-4492 (1982).

24. R.J. Marks II, "Restoration of continuously sampled bandlimited signals from aliased data", IEEE Transactions on Acoustics, Speech and Signal Processing, vol. ASSP-30, pp.937-942 (1982).

25. R.J. Marks II, "Restoring lost samples from an oversampled bandlimited signal", IEEE Transactions on Acoustics, Speech and Signal Processing, vol. ASSP-31, pp.752-755 (1983).

26. R.J. Marks II, "Noise sensitivity of bandlimited signal derivative interpolation", IEEE Transactions on Acoustics, Speech and Signal Processing, vol. ASSP-31, pp.1029-1032 (1983).

27. R.J. Marks II and D. Kaplan, "Stability of an algorithm to restore continuously sampled bandlimited images from aliased data", Journal of the Optical Society of America, vol. 73, pp.1518-1522 (1983).

28. R.J. Marks II "Optical Information Processing by Francis T.S. Yu", Applied Optics, vol. 22, p.3465 (1983) - book review.

29. R.J. Marks II and D. Radbel, "Error of linear estimation of lost samples in an oversampled bandlimited signal", IEEE Transactions on Acoustics, Speech and Signal Processing, vol. ASSP-32, pp.648-654 (1984).

30. R.J. Marks II, "Linear coherent optical removal of multiplicative periodic degradations: processor theory", Optical Engineering, vol. 23, pp.745-747 (1984) ...invited paper.

31. R.J. Marks II and S.M. Tseng, "Effect of sampling on closed form bandlimited signal interval interpolation", Applied Optics, vol. 24, pp.763-765 (1985); Erratum, vol. 24, p.2490 (1985).

32. F. Salamat and R.J. Marks II, "Acousto-optic digital filter", Applied Optics, vol. 24, pp.829-835 (1985).

33. K.F. Cheung and R.J. Marks II, "Ill-posed sampling theorems", IEEE Transactions on Circuits and Systems, vol. CAS-32, pp.829-835 (1985).

34. D. Radbel and R.J. Marks II, "An FIR estimation filter based on the sampling theorem", IEEE Transactions on Acoustics, Speech and Signal Processing, vol. ASSP-33, pp.455-460 (1985).

35. M.H. Goldburg and R.J. Marks II, "Signal synthesis in the presence of an inconsistent set of constraints", IEEE Transactions on Circuits and Systems, vol. CAS-32 pp. 647-663 (1985).

36. R.J. Marks II and R. Reightley, "On iterative evaluation of extrema of integrals of trigonometric polynomials", IEEE Transactions on Acoustics, Speech and Signal Processing, vol. ASSP-33, pp.1039-1040 (1985).

37. R.J. Marks II, "Multidimensional signal sample dependency at Nyquist densities", Journal of the Optical Society of America A, vol. 3, pp.268-273 (1986).

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7 Invited Talks (last ten years)

- ◇ "Perceptron Inversion: Properties and Applications", Institute of Engineering Cybernetics, Wroclaw University of Technology , Wroclaw , Poland (April 3, 2003).
- ◇ "Fundamentals of Swarm Intelligence", APL Invited Colloquia, Applied Physics Laboratory, University of Washington (April 10, 2003).
- ◇ "What Does Calculus Have to Do With Christianity?" San Jose State University, November 30, 2003.
- ◇ "Swarm Intelligence: The Method Behind the Mobs", NASA Office of Biological and Physical Research Program Review, California Institute of Technology, December 17-18, 2003.
- ◇ "Time Scale Nonregressivity in Switched Linear Circuits" Special Session on Dynamic Equations on Time Scales: Theory and Applications, AMS Western Sectional Meeting, University of Southern California, Los Angeles, CA, April 3-4, 2004 (with Ian Gravagne, John M Davis, Jeffrey J DaCunha).
- ◇ "Added Information in Targeted Evolutionary Search", Perry Conference, Hotel Pattee, Perry, Iowa, April 17-20, 2006.

- ◇ "Evolutionary Search: A Free Source of Design Information?" RAPIDS 2 Conference, BIOLA, May 11-13, 2006.
- ◇ "Science and the Bible: The Emerging Harmony," CDIS (Chengdu International School), Chengdu, China (May 29, 2006) and CaiDa Southwest Economics University, Chengdu, China (May 30, 2006) .
- ◇ "Computational Intelligence: A Free Source of Information?" International Symposium on Neural Networks (ISNN), Chengdu, China (May 29, 2006) A Keynote Talk
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- ◇ "Gödel to Turing to Chaitin to the Edge of Naturalism: Some Things Computers Will Never Do," B.E.A.R.S. Seminar, Baylor University, (September 28, 2007).
- ◇ "Conservation of Information in Evolutionary Search Algorithms: Measuring the Cost of Success," University of Missouri, Columbia, (November 12, 2007). IEEE CIS Distinguished Lecture for Columbia Chapter of IEEE CIS Society.
- ◇ "Gödel to Turing to Chaitin to the Edge of Naturalism: Some Things Computers Will Never Do," (April 2, 2008), SWBS, IEEE CIS Distinguished Lecture for Dallas Chapter of IEEE CIS Society.
- ◇ "Measuring the Cost of Success: Conservation of Information in Evolutionary Search Algorithms," Southern Methodist University (SMU), Department of Electrical Engineering (September 25, 2008).
- ◇ "Knowing What is Unknowable: Things a Computer Can't Do," Baylor American Scientific Affiliation (ASA) Student Chapter. Also sponsored by the Baylor Society for Conversations in Religion, Ethics and Science, Baylor University (April 15, 2008).
- ◇ "What does Calculus have to do with Christianity?" Dallas Christian Leadership (DCL) at SMU for Faculty Commons (September 25, 2008).
- ◇ "Evolutionary Informatics: Measuring the Cost of Success," American Scientific Affiliation (ASA) 64th Annual Meeting, Baylor University (Sunday, August 2, 2009) with William A. Dembski
- ◇ "Science & Christianity: Separate but Equal?" Covenant Presbyterian Church, Austin, TX (August 16, 2009)
- ◇ "Lessons from Gödel, Turing and Chaitin: Things Computational Intelligence Will Never Do," IEEE MetroCon 2009, Innovating for Society, August 17th, 2009, Sheraton Arlington, Arlington, Texas. (IEEE CIS Distinguished Lecture.)
- ◇ "God Ever Geometrizes: Apologetics in Mathematics," Baylor American Scientific Affiliation (ASA) Student Chapter. Also sponsored by the Baylor Society for Conversations in Religion, Ethics and Science, Baylor University (December 1, 2009).
- ◇ "Gödel to Turing to Chaitin to the Edge of Naturalism: Some Things Computational Intelligence Will Never Do," IEEE CIS Distinguished Lecture for St. Louis Chapter of IEEE CIS Society presented at the Missouri University of Science and Technology, Rolla, Mo., April 13, 2010.
- ◇ "Gödel to Turing to Chaitin to the Edge of Naturalism: Some Things Computational Intelligence Will Never Do," IEEE CIS Distinguished Lecture for St. Louis Chapter of IEEE CIS Society presented at the Missouri University of Science and Technology, Rolla, Mo., April 13, 2010.
- ◇ "Measuring the Cost of Success: Conservation of Information in Search," IEEE CIS Distinguished Lecture for St. Louis Chapter of IEEE CIS Society presented at the Missouri University of Science and Technology, Rolla, Mo., April 13, 2010.
- ◇ "Time Scale Discrete Fourier Transforms," Guest Lecture, Missouri University of Science and Technology, Rolla, Mo., April 14, 2010.

- ◇ "God Ever Geometrizes: Apologetics in Mathematics," Probe Ministries, Plano, Texas, (June 28, 2010).
- ◇ "Spectrum Issues in Amplifier Design," Fifth Annual Emerging Spectrum Technology (EST) Workshop on Advanced Radar Technologie to Improve Spectrum Use, Double Tree Hotel, Annapolis Maryland, September 13-14, 2010 (with Charles Baylis).
- ◇ "Power Amplifier Circuit and Waveform Optimization for Reduced Spectral Spreading in Radar Transmitters," IDGA's 4th Annual Military Radar Summit, Feb 8-10, 2011, Vienna, VA (with Charles Baylis).
- ◇ "Evolutionary Simulations and Sources of Active Information," Discovery Retreat, Santa Barbara, CA (March 1-4, 2011)
- ◇ "Measuring Cross Harmonic Coupling in Nonlinear Systems," WMCS Advisory Board, March 31, 2011, Baylor University.
- ◇ "Evolutionary Informatics. Why all the fuss?" Baylor Alumni Association, Lifelong Learning in Retirement, April 15, 2011, Great Hall of the Hughes-Dillard Alumni Center, Waco, Texas
- ◇ "Evolution Models Do Not Create Information," Great Expectations Conferences, Borgo Finocchieto, Tuscany, Italy, June 12-16, 201 (with Winston Ewert).

8 Tutorials

- ◇ Introduction to Artificial Neural Systems, College of Engineering , University of Washington, Seattle, August 20-21, 1987 . Offered again on September 15-16, 1988 (video made available by AMCEE) - with Les Atlas.
- ◇ Shannon Sampling and Interpolation Theory, regular UW course offering taped Spring Quarter, 1989 and Spring Quarter, 1990 (video made available by AMCEE.)
- ◇ Artificial Neural Systems, Ireste University in Nantes France , March 5-30, 1990 .
- ◇ Neural Networks and Their Applications to Power Engineering, Power Industry Computer Applications (PICA) Conference, Baltimore , MD , May 6, 1991 (with R. Eberhart and M.A. El-Sharkawi).
- ◇ Artificial Neural Networks in Electric Power Systems, Decisions Systems International, Monaco , July 1-3, 1991 (with M.A. El-Sharkawi).
- ◇ Neural Networks Tutorial, First International Forum on Applications of Neural Networks to Power Systems, Seattle, WA, July 23, 1991 (with R. Thomas and H. Mori).
- ◇ Auditory Neural Systems and Time-Frequency Theory, IEEE Conference on Neural Networks for Ocean Engineering, Washington D.C. , August 15-17, 1991 (with L.E. Atlas).
- ◇ Artificial Neural Networks in Electric Power Systems, Decisions Systems International, Madrid , Spain , September 7-11, 1992 (with M.A. El-Sharkawi).
- ◇ Artificial Neural Networks: Supervised Models, 1996 Winter Meeting, IEEE Power Engineering Society January 24, 1996 , and Summer Meeting, IEEE Power Engineering Society, July 31, 1996 , Denver , CO .
- ◇ Modern Neural Networks: The First Decade, IV Escola de Redes Neurais, Florianopolis , Brazil , July 21, 1997 .
- ◇ Diagnostics and Control of Electric Machines Using Computational Intelligence IEEE IEMDC'99. International Electric Machines and Drives Conference. May 9,1999 Seattle , Washington , USA (with M.A. El-Sharkawi).

- ◇ Neural Networks: The Fundamentals, Buryat State University , Ulan-Ude , Russia , March 5, 2001.
- ◇ An Introduction to Fuzzy Inference, IEEE PES Summer Meeting 2000, Seattle , WA .
- ◇ Introduction to Evolutionary Informatics, Discovery Institute Summer Symposium, Seattle, WA., July 2007.
- ◇ Information and Evolution, Discovery Institute Summer Symposium, Seattle, WA., July 2009.
- ◇ Power Amplifier Circuit and Waveform Optimization for Reduced Spectral Spreading in Radar Transmitters, 4th Annual Military Radar Summit, Washington, D.C., February 79, 2011 (with Charles Baylis)
- ◇ Why Design Information is Required to Find Improbable Complex Targets, Discovery Institute Summer Symposium, Seattle, WA., July 2011.

9 Research Grants & Contracts

1. "Lensless space-variant processing," Graduate School Research Fund (1978-79), $5,824.
2. "Coherent optical extrapolation of two-dimensional bandlimited signals," National Science Foundation (1979-81), $32,000.
3. "Coherent optical interpolation of continuously sampled images," Graduate School Research Fund (1982-83), $6,596.
4. AT&T Research Equipment Grant (1985)...with L.E. Atlas, $62.000. "Analysis and application of neural nets," Boeing High Technology Center (1986-88).with L.E. Atlas-$110,000.
5. 'Neural network computer architectures," The Washington Technology Center (1987-89) with L.E. Atlas.
6. "Increasing the accuracy of inexact processors," SDI/IST through ONR & the Optical Systems Lab at Texas Tech University and WTC (1988-1989), $230,000.
7. "Power Systems Stability and Security Assessments Using Artificial Neural Networks" NSF (1988-1990), Project Coordinator, co P.I. with M.A. El-Sharkawi, M. Damborg & L.E. Atlas-$337,500.
8. "Neurocomputers," The Washington Technology Center (1989-91) with L.E. Atlas, $150,000.
9. "Electric load forecasting using artificial neural networks," Puget Sound Power and Light Company (1989-90) with M. El-Sharkawi, L.E. Atlas & M. Damborg-$115.000.
10. "Advanced Time-Frequency Displays," Boeing Commercial Airplane Company, September 1, 1989 through October 30, 1990, co-P.I. with Les Atlas-$128,000.
11. "Neural Network & Learning Systems," The Washington Technology Center (1991-92) with L.E. Atlas, $150,000.
12. "Solution of Inverse Problems in Electromagnetic and Optical Propagation Using Artificial Neural Networks," National Science Foundation, February 15, 1991 to February 14, 1993, (with Jenq-Neng Hwang, Leung Tsang and Akira Ishimaru),-$151,000.
13. "Advanced Neural Network Paradigms and Applications," Boeing Computer Services, January 1, 1991 to December 31, 1993-$90,000.
14. "Simulation Studies on Biomagnetic Detection of Bundle of His Signal and Its Application to the Cardiac Syncope Problem," General Electric, Schenectady NY, January 1, 1992 to May 31, 1992, co Principal Investigator (Lee Huntsman, Project Coordinator; with co PI's G.H. Bardy, C. Ramon, S.Oh)-$40,000.

15. "Biomagnetic Imaging of Three-Dimensional Current Distribution," National Science Foundation, Stage 1: 6-1-92 to 5-31-95. Stage 2: 6-1-94 to 2 29, 1996 (co PI with C. Ramon)-$497,080 + 104,358.

16. "Detection of Short Turns in Turbo Alternators," Southern California Edison, August 1, 1992 to July 31, 1993, (co Principal Investigator M.A. El-Sharkawi)-$93,765.

17. "S&P 500 Trading Using Spectrally Trained Neural Networks," Washington Technology Center, January 1993 to June 1993, $25,000.

18. "Tune & Prune Adaptation of Fuzzy Inference Engines," Royalty Research Fund, University of Washington, June 15, 1993 to September 1994, $14,000.

19. "Localization of Short Turns in Turbo Alternators," Southern California Edison, August 1, 1992 to July 31, 1993, (co Principal Investigator M.A. El-Sharkawi)-$94,000.

20. 'Financial Neural Networks," Washington Technology Center, August 1993 to March 1994, $10,000.

21. "Detection of Short Turns in Operating Turbo Alternators," Southern California Edison, August 1, 1993 to August 31, 1994, (co Principal Investigator M.A. El-Sharkawi)-$93,000.

22. "Advanced Neural Network Paradigms and Applications," Boeing Computer Services, January 1, 1994 to December 31, 1996-$90,000. "Wavelet Based Neural Networks," Washington Technology Center, January 1995 to June 1995, $7,000.

23. "Genetic Algorithm Carbon Brake Analysis," Boeing Airplane Company, September 1994 to December 1994, $23,000.

24. "Under-Load Evaluation of Breaker Contacts Condition," National Science Foundation, GOALI Grant No.ECS-9634600, September 1, 1996 to August 31, 1997, (Co-PI with Mohamed A. El-Sharkawi in collaboration with Isador Kerszenbaum, Southern California Edison), $50,000.

25. "Intelligent Systems Applications for Transmissions and Distribution Systems," (Co-PI with Mohamed A. El-Sharkawi), Southern California Edison, 1996-97, $79,530.

26. "Advanced Neural Network Paradigms and Applications," Boeing Computer Services, January 1, 1996 to December 31, 1997-$23,000; 1997-98 $23,000; 1998-99 $23,000..

27. "UG Cable Replacement," Southern California Edison, 1997 - $50,000 (Co-PI with Mohamed A. El-Sharkawi). "Twin signal signature sensing: application to shorted winding monitoring, detection and localization," NSF/EPRI, 1995-1999, (co Principal Investigator M.A. El-Sharkawi), $398,000.

28. "Environmentally Adaptive Sonar," Office of Naval Research/ Applied Physics Laboratory, September 1997 to September 1999 - $90,000 (Co-PI with Mohamed A. El-Sharkawi).

29. "A New Paradigm for Designing Radiation Beams for Cancer Treatment," The Whitaker Foundation, January 1998 to December 2000 - $210,000 (Co-PI with Paul Cho, Department of Radiation Oncology, UW School of Medicine.)

30. "Automatic Decision Aggregation," Boeing Defense, Nov 1997 through May 1998, $26,000.

31. 'Automatic Environmentally Adaptive Sonar Control," Office of Naval Research, 1998-2001, - $333,000 (Co-PI with M.A. El-Sharkawi).

32. "Assessment of prostate seed implants NIH, October 1, 2001 to Dec 31, 2002 (Co-PI with Paul Cho, Department of Radiation Oncology, UW School of Medicine.), NIH, $212,000.

33. "Sensor Coverage for Vehicle Health and Safety Systems," Boeing Defense, June 2001 to Dec. 2001 (PI $25,000).

34. "Intelligent Sensor and Satellite Networks for Earth Science & Exploration," JPL & NASA Sept 1, 2000 to Dec 31, 2002 (co PI with M.A. El-Sharkawi, subcontract from JPL for $250,900.)

35. "Model-Based Complex Data Set Correlation Boeing Airplane Company, Jan 16, 2001 to Jan 16, 2002, (PI $42,099)

36. "Physiologic Development of Speech Production," NIH, Sept 1, 2001 to Sept 2006 (PI. Christopher A. Moore, Speech & Hearing Sciences. R.J. Marks II is a co-investigator, Grant Total is $2,861,174.).

37. "Reconstruction of Missing Sensor Readings on Jet Aircraft Engines," Boeing Phantom Works, September 2001 to May 2002 ($32,000).

38. "Missing Sensor Data Restoration: Computationally Intelligent Discovery of Reading Dependencies," NSF, Sept 16, 2001 to Aug 31, 2004, (co-PI with M.A. El-Sharkawi, $588,898). Undergraduate support addenda, $12,000.

39. "Intraoperative Dose Optimization for Prostate Brachytherapy," ARO, co-PI with Paul Cho and Y. Kim. $550,000, 2003-06 (3 years).

40. "Application of computationally intelligence techniques to long term multistatic sonar systems (ONR - EE/APL, 3 years, Marks Co-PI) $960k total.

41. "Collective Behavior of Biological Swarms: System Modeling, Analysis, and Algorithmic for Distributed Dynamic Resource Allocation Problems," JPL Director's Research and Development Fund, Jet Propulsion Laboratory, Co-PIs are Payman Arabshahi (JPL), R.J. Marks II (UW), Michael Dickinson (Cal Tech) and Alcherio Martinoli (Cal Tech), 2003-04, $200,000.

42. "Reconstruction of Missing Sensor Readings on Jet Aircraft Engines: Phase II," Boeing Phantom Works, April 2003 to July 2003, ($32,000),

43. "Supplemental RA Support," Applied Physics Lab, University of Washington, Spring Quarter, 2003, ($11,138).

44. "Real-Time Distributed Control Networks: Dynamic Bandwidth Allocation via Adaptive Sampling" (with Ian Gravagne and John Davis, Baylor University) NSF, 3 years, $311k. [Supplemental REU funds obtained for supporting summer undergraduate research.]

45. "Mu-Dynamics on Time Scales: Adaptive Time Domains for Dynamical Systems," (with Ian Gravagne and John Davis, Baylor University) NSF, 3 years, $143k.

46. "Multi-Agent System Based Intelligent Distributed Control System for Power Plants," (with Kwang Y. Lee, P.I. and Ian Gravagne), 2008–2011, $132k.

47. "Inversion of Swarm Dynamics for Underwater Tactical Applications," Office of Naval Research, 2009–2011, $150,000.

10 Consulting & Other External Activities

10.1 Organizations

- ◇ Arbor Ministries, Seattle, Washington, Board of Directors, Secretary (2002-present).
- ◇ Center for Evolutionary Informatics, Board of Directors, President (2008-present).
- ◇ American Institute for Technology and Science Education (AITSE), Advisory Council, (2009-present).

10.2 Expert Witness

- ◇ Neuromedical Systems, Inc (Plaintiff) vs. Neopath (Defendant), United States District Court, Southern District of New York (1997-98) - for the Defendant.
- ◇ Neopath (Plaintiff) vs Neuromedical Systems, Inc (Defendant) vs., United States District Court, Seattle (1997-98) - for the Plaintiff.
- ◇ Nestor, (Plaintiff) vs. Hecht-Nielsen Corporation Software (Defendant), filed Nov. 25, 1998, in U.S. District Court in Rhode Island.
- ◇ Hecht-Nielsen Corporation Software (Plaintiff) vs. Transaction Systems Architects Inc. and ACI Worldwide Inc. (Defendants), U.S. District Court in San Diego.

10.3 Consulting

- ◇ Applied Physics Lab, University of Washington
- ◇ APPA Systems Inc., Bellevue, WA
- ◇ Technical Arts Mfg. Co. Inc., Redmond ,WA
- ◇ John Fluke Manufacturing Company Inc., Everett, WA
- ◇ Space Labs, Redmond, WA
- ◇ Lasentec, Bellevue, WA
- ◇ Flow Industries, Kent, WA.
- ◇ Philipp Technologies, Bellevue, WA
- ◇ Multidimensional Systems Corporation, Lynnwood, WA
- ◇ Pacific Gas & Electric
- ◇ Financial Neural Networks, Inc., Kirkland, WA
- ◇ American Pioneer Corporation, Ballard
- ◇ Decisions Systems Corporation, Atlanta, GA
- ◇ Boeing Computer Services
- ◇ Boeing Airplane Company
- ◇ Microsoft Corporation, Redmond, WA
- ◇ Inficom Corp, Redmond, WA

11 Additional Information

Additional information is available at the web cite `http://RobertMarks.org`, including

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