Robert J. Marks II

Curriculum Vitae

Abbreviated

(Amplified CV also available: check for hyperlinks)

January 26, 2021

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
- Garfield Heights High School, 1968.

2 Contact Information

- Email: Robert_Marks@Baylor.edu
- Web Page: RobertMarks.org
- 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.
  - 2018-present: Director, Walter Bradley Center for Natural & Artificial Intelligence
  - 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).
  - 2008-2014: Faculty Search Committee, Chair.
  - 2008-2009: ECE Lecturer Search Committee, Chair.
  - 2008-2011: ECE Tenure Policy Committee, Chair.
  - 2008-2017: IEEE Baylor Student Branch, Faculty Advisor.
  - 2009-2011: Baylor Compensation, Benefits, and Personnel Committee, Member.
  - 2017-2018: University Faculty Dismissal Committee, Member
  - 2014- : ECE Graduate Studies Committee, Member

- 2016- : American Scientific Affiliation (ASA) Baylor Student Group, Faculty co-advisor
- 2017- : Oso Logos (Christian apologetics)Baylor Student Group, Faculty co-advisor
- 2017- : Department Awards Committee, Chair

◇ 1978-2003: University of Washington, Seattle

- 1987-2003: Professor of Electrical Engineering,
- 1982-1987: Associate Professor of Electrical Engineering,
- 1978-1982: Assistant Professor of Electrical Engineering.

◇ 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 Recognition

4.1 Honors & Awards

◇ Fellow of the Optical Society of America (OSA)[1]

◇ Fellow of the Institute of Electrical & Electronic Engineers (IEEE)[2] [Certificate]

◇ 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 [Certificate]

◇ IEEE Centennial Medal and Certificate (1984) [Certificate]

◇ IEEE Outstanding Branch Counselor/Advisor Award

◇ Charter President of the IEEE Neural Networks Council

[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."

- ◇ Rose-Hulman Institute of Technology Outstanding Young Alumni Award [Certificate]
- ◇ Texas Tech Electrical Engineering Academy
- ◇ IEEE Neural Networks Council Meritorious Service Award
- ◇ IEEE CASS (Circuits and Systems Society) Golden Jubilee Medal [Certificate]
- ◇ Judith Stitt Award, American Brachytherapy Society 23rd Annual Meeting (2001)
- ◇ NASA Tech Brief Award (2004) [Certificate]
- ◇ Pioneer in Neural Network Award (IJCNN) (2006)
- ◇ IEEE Dallas Section Volunteer of the Year Award (2007)
- ◇ DARPA[3]
- ◇ 1983 Jan 1, IEEE Senior Member
- ◇ 1993 October 22. The IEEE/Nagoya University acknowledges its gratitude to Dr. R. J. Marks II for participation in the World Wisemen/women Workshop

4.2 Listings

- ◇ *Access Research Network* top award for the "Top 10 Darwin and Design Science Stories" for 2009. [4]
- ◇ CollegeCrunch.org. "The 20 Most Brilliant Christian Professors," April 4, 2010. [5]

[3] DARPA Radar/Communications Co-Design Challenge (2015) Arlington, VA 22203-2114. "The SSPARC [Shared Spectrum Access for Radar and Communications] program office will bring together a few [four] of the most senior, idea-driven, thoughtful researchers that have spanned both the radar and communications disciplines through their careers and challenge them to offer a vision of how to tackle the joint radar and communications co-design problem."

[4] "*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."

[5] " The professors listed here are all 'brilliant' in the original sense of the word—they 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 day—all 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."

- ◇ SuperScholar.org. "The 20 Most Influential Christian Scholars," 2010. [Link] [6]
- ◇ TheBestSchools.org. "The 50 Smartest People of Faith." Feb 17, 2018. [7]
- ◇ L. A.Yahaya, "PERSONAL CHARACTERISTICS OF REPUTABLE SCHOLARS" 2013.[8]

[6]"Super Scholar's 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 culture's self-understanding." "Robert J. Marks II (b. 1950), Baylor University's leading research professor, has emerged as the public face of intelligent design. As the movement's 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 university's 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

[7]The qualifications for inclusion on our list are twofold

1. Intellectual brilliance, evidenced by a very high level of achievement, whether in the natural sciences, the social sciences, the humanities, literature, the fine arts, or public service; and
2. Religious faith, evidenced either through explicit personal witness or through publicly professed respect for religion.

By "religious faith," we mean religion in the monotheistic, or Abrahamic, tradition—which we happen to know best. We do not doubt that a similar list of brilliant and devout Hindus, Buddhists, Daoists, Confucianists, Shintoists, and others could easily be drawn up, and we hope it will be, by those qualified to do so.

It is presented in alphabetical order.

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Robert J. Marks II (b. 1950). Marks was born in West Virginia. He was educated at the Rose-Hulman Institute of Technology (BS, Engineering, 1972; MS, Electrical Engineering, 1973) and Texas Tech (PhD, Electrical Engineering, 1977). He taught for many years at the University of Washington, in Seattle. He is currently Distinguished Professor of Electrical and Computer Engineering at Baylor University, in Waco, Texas. Marks, who is Protestant, has made a number of contributions to cutting-edge technology at the interface between electrical engineering and computer science. For example, in 1991 he was the first to apply artificial neural networks to the problem of forecasting power demands by electrical utility companies—a practice that is widespread today. More recently, Marks and colleagues developed an algorithm for the real-time tracking of the placement of radioactive seeds in prostate cancer therapy. In addition, his team developed the first closed-form solution for the Neyman–Pearson optimal detection of signals in non-Gaussian noise. In 2007, Marks inaugurated his *Evolutionary Informatics Lab*, a web site dedicated to simulating evolutionary processes. The Lab—which has demonstrated severe constraints on the creative potential of Darwinian-style algorithms — was afterwards shut down by the Baylor University administration, and Marks has since moved it to a private server. Books: *Fuzzy Logic Technology and Applications*, editor (IEEE, 1994); *Neural Smithing: Supervised Learning in Feedforward Artificial Neural Networks*, co-author (MIT Press/Bradford Books, 1999); *Handbook of Fourier Analysis and Its Applications,* (Oxford UP, 2009)

[8]"Academic profession like other essential professions has its demands. For anyone to succeed in the profession, he/she needs to possess some personal characteristics. The focus of this presentation is to sensitize academic staff, particularly the young academics on the personal characteristics that are required to succeed in academic career. Some notable scholars who possessed the appropriate personality characteristics and that have excelled in academic endavour include: Fransisco Ayala, Abdulhamid Bin Badis, Ali Jabar, Abdul Qader Arnaoot, Peter L. Berger, Benjamin Carson, Hassan Hathont , Francis Collins , Omar Khalidi, Robert J. Marks. Others are...

◇ TheBestSchools.org. "The 50 Most Influential Scientists in the World Today." November 1, 2019. [Link]

[9]

[9]From biotechnology and digital media to sustainable energy and cloud computing, almost everything today is somehow affected—and sometimes entirely reshaped—by scientific and technological advances.

By science in this article we mean the natural and engineering sciences (we thus exclude pure mathematics as well as the social sciences). Thus, in this article, we focus on scientists in the biological, medical, and physical sciences as well as those concerned with technology and especially computers.

As a society, we have come to take the fruits of science for granted, such as our use of computers, our access to running water and electricity, and our dependence on various forms of transportation and communication. But all such benefits follow from the discoveries and inventions of scientists as they pursue deep insights into the workings of nature and its materials.

This article focuses on the 50 most influential scientists alive today and their profound contributions to science. These are scientists who have invented the Internet and fiber optics, challenged AIDS and cancer, developed new drugs, and in general made crucial advances in medicine, genetics, astronomy, ecology, physics, and computer programming.

In referring to the scientists on this list as "influential," this article attempts to gauge their influence on science as such. In other words, the scientists listed here are influential because of the groundbreaking scientific work they have done and its impact on the world.

Some scientists are enormously influential as popularizers or culture critics or public intellectuals. In this respect, figures like Richard Dawkins and Lawrence Krauss, or Carl Sagan and Stephen Jay Gould a generation back, come to mind. The scientists on this list, however, are here because of their preeminence as scientists doing science.

The scientists described here are all creative and brilliant. Many of them are also unusual and interesting—colorful personalities that it would be a pleasure to know!

As you feast on the names and biographies of the scientists on this list, also check out our article "The World's 50 Smartest Teenagers." Some of the most influential scientists in the future will be drawn from this list.

⋮

28. Robert J. Marks II

Robert J. Marks II is the Distinguished Professor of Electrical and Computer Engineering at Baylor University in Waco, Texas. Previously, he was on the faculty of the University of Washington for 25 years. He is a pioneer in the field of computational intelligence (which includes neural networks, fuzzy sets, and evolutionary computing), and was the first president of the Institute of Electrical and Electronics Engineers (IEEE) Neural Networks Council.

Marks received his PhD in electrical engineering from Texas Tech University. He has over 300 peer-reviewed journal publications. He is also a proponent of intelligent design, holding that certain features of the universe and of living things are best explained by an intelligent cause, not an undirected process such as natural selection.

Marks has made important technical contributions across widely diverse areas, such as the spacing of radium inserts to treat prostate cancer, signal display, remote sensing, optical image sampling, optical computers, and the use of fuzzy logic to control the electrical grid (how electricity is delivered today depends crucially on the work of Marks). He has served as a consultant to companies such as Microsoft and Boeing corporation.

Marks has authored several books including, the Handbook of Fourier Analysis and Its Applications, Neural Smithing: Supervised Learning in Feedforward Artificial Neural Networks, and Applications of Neural Networks to Power Systems, among others.

Marks has received numerous awards, including the IEEE Distinguished Lecturer twice, once from the IEEE Neural Networks Council in 1991–92, and again from the IEEE Neural Networks

4.3 Honorary Conference Positions

- ◇ International Chair & Advisory Board Member 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.
- ◇ International Symposium on Neural Networks (ISNN) Advisory Committee.
  - ○ 3rd International Symposium on Neural Networks (ISNN 2006) Chengdu, China, May 28 - June 1, 2006
  - ○ 4th International Symposium on Neural Networks (ISNN 2007) Nanjing, China June 3-7, 2007
  - ○ 5th International Symposium on Neural Networks (ISNN 2008) Beijing, China, September 24-28, 2008
  - ○ 6th International Symposium on Neural Networks (ISNN 2009) Wuhan, China, May 26-29, 2009
  - ○ 7th International Symposium on Neural Networks (ISNN 2010) Shanghai, China, June 6-9, 2010
  - ○ 7th International Symposium on Neural Networks (ISNN 2011) Guilin, China May 29 June 1, 2011

Society in 2002–03, as well as the Golden Jubilee Medal in 1999 from the IEEE Circuits and Systems Society. He is a fellow of the IEEE.

In 2007, Marks founded the Evolutionary Informatics Lab at Baylor to study the information-theoretic underpinnings of intelligent design. The research of that lab has produced a steady stream of peer-reviewed engineering publications that are influencing many in the engineering community to accept intelligent design, controversial though it remains, as a legitimate scientific theory.

5 Professional Societies

5.1 Publication Administration

- ◇ IEEE
  - ○ IEEE Transactions on Neural Networks, Editor-in-Chief (1992-1997)
  - ○ IEEE Transactions on Fuzzy Systems, Associate Editor (1993-1999)
  - ○ IEEE Transactions on Systems, Man & Cybernetics, Associate Editor (2011-2014)
- ◇ 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 (2010-2014), Editor-in-Chief (2015-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 (2000-2014).
  - ○ JOURNAL OF ENGINEERING RESEARCH, International Advisory Editorial Board (2002-2004).
  - ○ International Journal of Soft and Intelligent Computing and Mathematics, Editorial Board Member (2008-2009).
  - ○ International Journal of Artificial Life Research, Editorial Board Member (2009-2011).

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) [Certificate]

◇ 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)
- Member, Board of Governors [Certificate]

◇ 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). [Certificate]

◇ 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 (1996-2004)
  - † 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 30–April 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 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, Technical 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.

◇ International Conference of Neural Information Processing (ICONIP),

- ICONIP 1994, Seoul, Korea (International Advisory Committee)
- ICONIP '95, Oct 30 - Nov 3, 1995, Beijing, China, International Advisory Committee, Member

◇ American Mathematical Society

- 1051st AMS Meeting, Baylor University, October 16-18, 2009, Session CoOrganizer (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

◇ Texas Symposium on Wireless & Microwave Circuits & Systems, Baylor University, Waco, Texas

- April 4–5, 2013, Organization Chair
- March 26–27, 2014, Organization Chair
- April 23–24, 2015, Organization Chair
- March 31, April 1, 2016, Organization Chair
- March 30-31, 2017, Conference Advisor
- April 5-6, 2018, Conference Advisor
- March 28-29, 2019, Conference Advisor

◇ 45th IEEE Southeastern Symposium on System Theory, March 10–12, 2013, Baylor University, Waco, Texas, Organization Chair.

◇ 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.

- 1994 International Symposium on Speech, Image Processing & Neural Networks, (ISSIPNN'94) Hong Kong Convention & Exhibition Center April 14-16, 1994 (International Advisory Committee).
- 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 and Publications Chair.
- American Scientific Affiliation (ASA) 64th Annual Meeting, Baylor University (Sunday, August 2, 2009), Session Chair (Origins).
- ACM Genetic and Evolutionary Computation Conference (GECCO), Vancouver, Canada on July 12-16, 2014, ACO-SI track program committee member
- Alternatives to Methodological Naturalism, Online Meeting - April 16, 2016, Advisory Panel
- International Conference on Big Data and Data Analytics (ICBDDA-17), sponsored by India's Institute for Engineering Research and Publication (IFERP), April 4-5, 2017 at Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya (SCSVMV) Kanchipuram, International Advisory Committee Member
- Alternatives to Methodological Naturalism Conference, April 16, 2016 Conference Advisory Panel, Member

6 Publications

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) Softcover reprint 2012. ISBN-10: 1461397103 ISBN-13: 978-1461397106.

2. M.A. El-Sharkawi and R. J. Marks II, Editors, Applications of Neural Networks to Power Systems, (IEEE Press, Piscataway, 1991). [TOC]

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). Softcover reprint 2012. ISBN-10: 1461397596. ISBN-13: 978-146139759.

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). [TOC]

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).

9. R.J. Marks II, M.J. Behe, W.A. Dembski, B.L. Gordon, J.C. Sanford, Editors Biological Information - New Perspectives, Cornell University (World Scientific, Singapore, 2013). [Cache]
DOI: 10.1142/9789814508728, ISBN-10: 9814508713,ISBN-13: 978-9814508711

10. R.J. Marks II, W.A. Dembski, W. Ewert, *Introduction to Evolutionary Informatics*, (World Scientific, Singapore, 2017).

11. R.J. Marks II, *The Case for Killer Robots: Why America's Military Needs to Continue Development of Lethal AI* (Discovery Institute Press, 2020) [Cache]

12. Robert J. Marks II, William A. Dembski and J.P. Moreland, *For a Greater Purpose: The Life and Legacy of Walter Bradley*, Erasmus Press (August 31, 2020)

6.2 Book Chapters

1977

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6.7 Abstracts

6.7.1 1970-1979

1976

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6.7.5 2010-2019

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TIVE RADAR TRANSMISSION," 2019 USNC-URSI National Radio Science Meeting, University of Colorado at Boulder, January 9-12, 2019.

71. Jose A. Alcala-Medel, Caleb Calabrese, Charles Baylis, Anthony Martone, Kyle Gallagher, Ed Viveiros, Abbas Semnani3, Dimitrios Peroulis, "FAST RECONFIGURATION OF SECOND-GENERATION TUNABLE EVANESCENTMODE CAVITY MATCHING NETWORK FOR FREQUENCY AGILITY IN S-BAND COGNITIVE RADAR APPLICATIONS," 2019 USNC-URSI National Radio Science Meeting, University of Colorado at Boulder, January 9-12, 2019.

72. Ellie Langley, Austin Egbert, Charles Baylis, Abbas Semnani, Dimitrios Peroulis, Anthony Martone, Ed Viveiros, Robert Marks II, Angelique Dockendorf, "FREQUENCY-AGILE RECONFIGURATION FOR A HIGH-POWER RESONANT CAVITY TUNER USING PREVIOUS SEARCH RESULTS," 2019 USNC-URSI National Radio Science Meeting, University of Colorado at Boulder, January 9-12, 2019.

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6.7.6 2020-2029

2020

74. Adam Goad, Charles Baylis, Paul Flaten, Brian Olson, Robert J.Marks II, "Algorithm for Fast Simultaneous Harmonic and Fundamental Impedance Tuning in Reconfigurable Radar Transmitter Power Amplifiers" 2020 IEEE International Radar Conference, Washington DC (virtual), April 27, 2020

75. Adam Goad, Austin Egbert, Angelique Dockendorf, Charles Baylis, Anthony Martone, Robert Marks "Metacognition-Guided, Spectrum Sharing Radar" 2020 IEEE International Radar Conference, Washington DC (virtual), April 27, 2020

76. Caleb Calabrese, Angelique Dockendorf, Austin Egbert, Brandon Herrera, C. Baylis, R. Marks II, "Fast Switched-Stub Impedance Tuner Reconfiguration for Frequency and Beam Agile Radar and Electronic Warfare Applications" 2020 IEEE International Radar Conference, Washington DC (virtual), April 27, 2020

77. Caleb Angelique Dockendorf, Austin Egbert, Adam Goad, Caleb Calabrese, Benjamin Adkins, Brandon Ravenscroft, Jonathan Owen, Charles Baylis, Shannon Blunt, Anthony Martone, Robert Marks II, "Impedance Tuning with Notched Waveforms for Spectrum Sharing in Cognitive Radar" 2020 IEEE International Radar Conference, Washington DC (virtual), April 27, 2020

78. Adam Goad, Austin Egbert, Angelique Dockendorf, Charles Baylis, Anthony Martone, Robert J.Marks II, "Optimizing Transmitter Amplifier Load Impedance for Tuning

Performance in a Metacognition-Guided, Spectrum Sharing Radar" 2020 IEEE International Radar Conference, Washington DC (virtual), April 27, 2020

79. Pedro Rodriguez-Garcia, Jack Sifri, Caleb Calabrese, Charles Baylis, Robert Marks, "Element-Wise Impedance Tuning for Improved Capabilities in Single-Beam and Dual-Beam Phased Array Transmitters" 2020 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting in Montréal, Québec, Canada on 5-10 July 2020

80. Austin Egbert, Charles Baylis, Anthony Martone, Robert Marks, "Recursive Interval-Halving Method for Generating Model Independent Impedance Tuner Characterizations" 2020 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting in Montréal, Québec, Canada on 5-10 July 2020

81. Charles Baylis, Robert Marks "Artificially Intelligent Power Amplifiers in Radar Arrays: Unlocking High-Range Detection while Sharing Spectrum" 2020 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting in Montréal, Québec, Canada on 5-10 July 2020

82. Caleb Calabrese, Austin Egbert, Angelique Dockendorf, Brandon Herrera, Charles Baylis, Robert Marks, "Microsecond Reconfiguration of Switched-Stub Impedance Tuner for Software-Defined Radar Transmitter Amplifiers for Varying Frequency and Antenna Impedance" 2020 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting in Montréal, Québec, Canada on 5-10 July 2020

83. Adam Goad, Austin Egbert, Angelique Dockendorf, Charles Baylis, Anthony Martone, Ben Kirk, Robert J. Marks, "Real-Time Circuit Reconfiguration to Maximize Average Output Power using a Weighted Average Gradient Search in a Metacognition-Guided, Spectrum Sharing Radar with Quickly Changing Operating Frequencies" 2020 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting in Montréal, Québec, Canada on 5-10 July 2020

2021

84. Adam Goad, Charles Baylis, Robert Marks, Sarah Seguin "An Algorithm for the Optimization of a Dual-Beam Steerable Phased Array System with Real-Time Reconfigurable Element-wise Power Amplifier Load Impedance Tuners" 2021 National Radio Science Meeting, January 4-9, 2021

85. Justin Roessler, Adam Goad, Austin Egbert, Charles Baylis, Anthony Martone, Ben Kirk, Robert J. Marks II "Comparison of Fixed Broadband and Tunable Narrowband Output Matching Networks" 2021 National Radio Science Meeting, January 4-9, 2021

86. Justin Roessler, Adam Goad, Austin Egbert, Charles Baylis, Anthony Martone, Ben Kirk, Robert J. Marks II "Comparison of Fixed Broadband and Tunable Narrowband Output Matching Networks" 2021 National Radio Science Meeting, January 4-9, 2021

87. Caleb Calabrese, Austin Egbert, Justin Roessler, Alden Fisher,Charles Baylis, MohammadAbu Khater, Dimitrios Peroulis, Robert J. Marks "Toward a High Power, High Speed Plasma-Switch Impedance Tuner Under Software-Defined Radio Control" 2021 National Radio Science Meeting, January 4-9, 2021

88. Austin Egbert, Adam Goad, Benjamin Kirk, Charles Baylis, Anthony Martone, and Robert J. Marks II "Continuous Real-Time Circuit Reconfiguration to Optimize Average Performance for Spectrum-Sharing Radar Transmitters" 2021 National Radio Science Meeting, January 4-9, 2021

6.8 Web Publications

6.8.1 2010-2019

2014

1. Robert J. Marks II, "The Turing Test Is Dead. Long Live the Lovelace Test," Evolution News and Views, July 3, 2014

2. Robert J. Marks II, "Biological information: New perspectives from intelligent design," Human Events, Aug 19, 2014.

2016

3. Robert J. Marks II "Everything You Ever Wanted to Know about Peer Review (and probably more)," TheBestSchools.org (May 2016)

4. Robert J. Marks II "Peer Review Pt. 1: The Way It Was," TheBestSchools.org (May 2016)

5. Robert J. Marks II "Peer Review Pt. 2: The Sausage Factory," TheBestSchools.org (May 2016)

6. Robert J. Marks II "Peer Review Pt. 3: Towers of Mostly Babble," TheBestSchools.org (May 2016). [Cache, Figure 1, Figure 2, Figure 3]

7. Robert J. Marks II "Peer Review Pt. 4: How To Publish Your Scholarly Paper," TheBeastSchools.org (May 2016)

8. Robert J. Marks II "Peer Review Pt. 5: Artificial Unintelligence: will journals accept papers written by… a computer?," TheBestSchools.org (May 2016)

2017

9. Robert J. Marks II "Texas should let kids explore whether Darwin got it right," Dallas Morning News, April 17, 2017

10. Robert J. Marks, "New Video Game Proves Adaptation Is Ubiquitous," CNS News, May 2, 2017.

11. Robert J. Marks II "Top Ten Questions and Objections to Introduction to Evolutionary Informatics," Evolution News & Views, June 12, 2017

12. Robert J. Marks "Why You Shouldn't Worry About A.I. Taking Over the World," The Stream, Oct. 3, 2017. [Link.]

2018

13. Robert J. Marks, "Why 'Mind Matters' Matters," , MindMatters.today, July 11, 2018. [Link.]

14. Robert J. Marks "Why He Is a Hero: The Exemplary Life and Legacy of Dr. Walter Bradley," The Walter Bradley Center for Natural & Artifical Intelligence, Mind Matters, Center for Natural & Artificial Intelligence, July 13, 2018. [Link.]

15. Robert J. Marks "AI That Can Read Minds? Deconstructing AI Hype," Mind Matters, MindMatters.today, August 4, 2018. [Link.]

16. Robert J. Marks, "Screewriters' Jobs are *not* threatened by AI, Mind Matters," Mind Matters, August 15, 2018. [Link.]

17. Robert J. Marks, "Could HAL 9000 Ever Be Built?" Mind Matters, August 31, 2018. [Link.]

18. Robert J. Marks, "SLAUGHTERBOTS: Is it ethical to develop a swarm of killer AI drones?" Mind Matters, September 3, 2018. [Link.]

19. Robert J. Marks, "HUMAN CONSCIOUSNESS MAY NOT BE COMPUTABLE," Mind Matters, NOVEMBER 27, 2018 [Link.]

20. Robert J. Marks, "MCDONALD'S, MEET MCPATHOGENS," Mind Matters, DECEMBER 3, 2018. [Link.]

21. Robert J. Marks, "QUANTUM RANDOMNESS GIVES NATURE FREE WILL," Mind Matters, DECEMBER 6, 2018. [Link.]

22. Robert J. Marks, "STUDY SHOWS EATING RAISINS CAUSES PLANTAR WARTS: Sure. Because, if you torture a Big Data enough, it will confess to anything," Mind Matters, December 17, 2018. [Link.]

23. 10. Robert J. Marks, "IS AI REALLY BECOMING "HUMAN-LIKE"?" Mind Matters, December 20, 2018. [Link.]

24. Robert J. Marks, "9: WILL THAT ARMY ROBOT SQUID EVER BE "SELF-AWARE"?," Mind Matters, December 21, 2018. [Link.]

25. Robert J. Marks, "8: AI JUST NEEDS A BIGGER TRUCK!" Mind Matters, , December 21, 2018. [Link.]

26. Robert J. Marks, "7: COMPUTERS CAN DEVELOP CREATIVE SOLUTIONS ON THEIR OWN!" Mind Matters, December 24, 2018. [Link.]

27. Robert J. Marks, "6: AI CAN EVEN EXPLOIT LOOPHOLES IN THE CODE!" Mind Matters, December 26, 2018. [Link.]

28. Robert J. Marks, "5: AI CAN FIGHT HATE SPEECH!" Mind Matters, December 26, 2018. [Link.]

29. Robert J. Marks, "4: MAKING AI LOOK MORE HUMAN MAKES IT MORE HUMAN-LIKE!" Mind Matters, December 28, 2018. [Link.]

30. Robert J. Marks, "3: WITH MIND-READING AI, YOU WILL NEVER HAVE SECRETS AGAIN!" Mind Matters, December 28, 2018. [Link.]

31. Robert J. Marks, "2: AI CAN WRITE NOVELS AND SCREENPLAYS BETTER THAN THE PROS!" Mind Matters, December 31, 2018. [Link.]

32. Robert J. Marks, "1: IBM'S WATSON IS NOT OUR NEW COMPUTER OVERLORD," Mind Matters, December 31, 2018. [Link.]

2019

33. Robert J. Marks, "THE IDOL WITH FEET OF SILICON." Mind Matters, FEBRUARY 3, 2019 [Link.]

34. Robert J. Marks, "STEM EDUCATION 1. PURSUING NERD QUALITY OVER NERD QUANTITY," Mind Matters, January 23, 2019. [Link.]

35. Robert J. Marks, "STEM EDUCATION 2. NOT EVERYONE IS LUCKY ENOUGH TO BE A NERD," Mind Matters, January 29, 2019. [Link.]

36. Robert J. Marks, "STEM EDUCATION 3. KILLING PEOPLE AND BREAKING THINGS," Mind Matters, February 8, 2019. [Link.]

37. Robert J. Marks, "STEM EDUCATION 4: DO STEM NERDS NEED TO LEARN LATIN?," Mind Matters, February 13,2019. [Link.]

38. Robert J. Marks, "STEM EDUCATION 5: WHAT DIFFERENCE DO FAMILY AND PRIVILEGE MAKE TO SUCCESS?," Mind Matters, Febrary 21, 2019. [Link.]

39. Robert J. Marks, "STEM EDUCATION 6: HOW TO GUIDE A NERD," Mind Matters, Febrary 28, 2019. [Link.]

40. Robert J. Marks, "STEM EDUCATION 7: SELL THE SIZZLE," Mind Matters, March 7, 2019. [Link.]

41. Robert J. Marks, "STEM EDUCATION 8: HELP CREATE CREATIVITY," Mind Matters, March 14, 2019. [Link.]

42. Robert J. Marks, "WHY WE CAN'T JUST BAN KILLER ROBOTS: Should we develop them for military use? The answer isn't pretty. It is yes," Mind Matters, February 15, 2019. [Link.]

43. Robert J. Marks, "AI ETHICS AND THE VALUE OF HUMAN LIFE: Unanticipated consequences will always be a problem for totally autonomous AI," Mind Matters, February 22, 2019. [Link.]

44. Robert J. Marks, "AUTONOMOUS AI IN WAR: TRIAL BY ORDEAL," Mind Matters, February 28, 2019. [Link.]

45. Robert J. Marks, "RANDOM THOUGHTS ON RECENT AI HEADLINES," Mind Matters, March 18, 2019. [Link.]

46. Robert J. Marks, "THINGS EXIST THAT ARE UNKNOWABLE," Mind Matters, March 19, 2019. [Link.]

47. Robert J. Marks, "AI AND THE SEDUCTIVE OPTICS OF THE FRANKENSTEIN COMPLEX," Mind Matters, March 26, 2019. [Link.]

48. Robert J. Marks, "BIG DATA CAN LIE: SIMPSON'S PARADOX," Mind Matters, April 15, 2019. [Link.]

49. Robert J. Marks, "HOW ARE ZOMBIES EMPOWERED BY ALGORITHMS?," Mind Matters, April 23, 2019. [Link.]

50. Robert J. Marks, "WHAT IT REALLY TAKES TO BUILD A HIGH-TECH COMPANY, SELL IT, AND GET RICH," Mind Matters, May 8, 2019. [Link.]

51. Robert J. Marks, "WHAT ONE THING DO AI, EVOLUTION, AND ENTREPRENEURSHIP ALL NEED?," Mind Matters, May 17, 2019. [Link.]

52. Robert J. Marks, "AI AS THE ARTFUL DODGER," Mind Matters, May 28, 2019. [Link.]

53. Robert J. Marks, "SEVEN MINUTES TO GOOSEBUMPS: CONFRONTING MATERIALISM HEAD ON," Mind Matters, June 4, 2019. [Link.]

54. Robert J. Marks, "AI IS NO MATCH FOR AMBIGUITY," Mind Matters, June 17, 2019. [Link.]

55. Robert J. Marks, "MCPATHOGENS: ARE MCDONALDS' ORDER KIOSKS CLEAN? ANOTHER LOOK," Mind Matters, June 19, 2019. [Link.]

56. Robert J. Marks, "RANDOM THOUGHTS ON RECENT AI HEADLINES: GOOGLE GIVES AWAY "FREE" COOKIES…," Mind Matters, 2019. [Link.]

57. Robert J. Marks, "WHY IT'S SO HARD TO REFORM PEER REVIEW," Mind Matters, July 18, 2019. [Link.]
Reprinted at Social Science Space, July 25, 2019. [Link.]

58. Robert J. Marks, "CAN AI PREDICT AND PREVENT POLITICAL UNREST?," Mind Matters, July 19, 2019. [Link.]

59. Robert J. Marks, "CAN COMPUTER ALGORITHMS BE FREE OF BIAS?," Mind Matters, July 20, 2019. [Link.]

60. Robert J. Marks, "RANDOM THOUGHTS ON THE PASSING SCENE: HOW TO SPELL GUD," Mind Matters, August 1, 2019. [Link.]

61. Robert J. Marks, "PURSUIT OF THE AI SINGULARITY IS MODERN ALCHEMY," Mind Matters, September 4, 2019. [Link.]

62. Robert J. Marks, "SMART CITIES?: PROCEED WITH CAUTION!," Mind Matters, October 18, 2019. [Link]

63. Robert J. Marks, "THE GREATEST THREAT WE FACE FROM AI—AND WHAT WE CAN DO," Mind Matters, November 14, 2019. [Link.]

64. Robert J. Marks, "Random Comments on the Passing Scene: Carbon Computing and Much More," Mind Matters, December 9, 2019. [Link.]

65. Robert J. Marks, "Abandoning Reality: Getting Lost in Oculus Quest's VR," Mind Matters, December 12, 2019. [Link.]

66. Robert J. Marks, "Moore or Less: Why the Exponential Speed of AI Can't Be Sustained," Mind Matters, December 17, 2019. [Link.]

6.8.2 2020-2029

2020

67. Robert J. Marks II, "Iran Conflict Shows Why the US Needs Autonomous Lethal AI Weapons," CNS News, January 29, 2020 [Link.]

68. Robert J. Marks, "Introducing Walter Bradley: Friend, Hero, and Coauthor of *The Mystery of Life's Origin*" Evolution News & Science Today, January 30, 2020 [Link]

69. Robert J. Marks, "Coronavirus: Is Data Mining Failing Its First Really Big Test?," Mind Matters, April 29, 2020. [Link.]

70. Robert J. Marks, "CALVIN AND HOBBES EXPLAIN WHY AI WILL NEVER RULE THE BATTLEFIELD" Mind Matters, May 4. 2020 [Link]

71. Robert J. Marks, "SHOULD AI HOLD PATENTS? THE FLASH-OF-GENIUS ANSWER" Mind Matters, May 8, 2020 [Link]

72. Robert J. Marks, "Einstein's Only Rejected Paper" Mind Matters, May 14, 2020 [Link]

73. Robert J. Marks, "FLUBBED HEADLINES: NEW CHALLENGE FOR AI COMMON SENSE" Mind Matters, May 18, 2020 [Link]

74. Robert J. Marks, "DEVS BOTH GRIPS AND CHALLENGES HULU VIEWERS" Mind Matters, May 23, 2020 [Link]

75. Robert J. Marks, "ADVICE TO PHYSICISTS: 'SHUT UP AND DO PHYSICS' " Mind Matters, May 25, 2020 [Link]

76. Robert J. Marks, "HULU'S DEVS SERIES: WHERE THEY GET DETERMINISM WRONG" Mind Matters, May 30, 2020 [Link]

77. Robert J. Marks, "IS BIG BANG THEORY'S SHELDON RIGHT RE THE MULTIVERSE?" Mind Matters, June 4, 2020 [Link]

78. Robert J. Marks, "EINSTEIN'S SINGLE JOURNAL PAPER ENDED WWII" Mind Matters, June 9, 2020 [Link]

79. Robert J. Marks, "STARK LESSONS FROM THE 75TH ANNIVERSARY OF THE ATOMIC BOMB" Mind Matters, Articles August 6, 2020 [Link]

80. Robert J. Marks, "DARPA Has Scheduled AI vs. AI Aerial Dogfights for Next Week" Mind Matters, August 14, 2020 [Link]

81. Robert J. Marks, "After Thursday's Dogfight, It's Clear: DARPA Gets AI Right" Mind Matters, August 23, 2020 [Link]

    (a) Reprinted in Zelpedia [Link]

    (b) Reprinted at Gistree.com [Link]

    (c) Reprinted at Full Stack [Link]

    (d) Reprinted at Alive Blog [Link]

82. Robert J. Marks, "What's To Be Done About Cheating with Chegg in the COVID era?" Mind Matters, September 17, 2020 [Link]

83. Robert J. Marks, "Meet the U.S. Army's New Drone Swarms" Mind Matters, September 11, 2020 [Link]

84. Robert J. Marks, "AI: Design Ethics vs. End User Ethics — the Difference Is Important" Mind Matters, September 15, 2020 [Link]

    ◇ Reprinted at *Anti Corruption Digest*, September 17, 2020 [Link]

85. Robert J. Marks, "Has Microsoft Ever Really Innovated?" Mind Matters, September 23, 2020 [Link]

86. Robert J. Marks, "Pigeons Can Solve the Monty Hall Problem. But Can You?" Mind Matters, October 5, 2020 [Link]

87. Robert J. Marks, "Should We Really "Listen to Science"? What Should We Listen For? "Mind Matters, October 13, 2020 [Link]

88. Robert J. Marks, "The First War Using Modern AI-Based Weapons Is Here" Mind Matters, October 15, 2020 [Link]

89. Robert J. Marks, "Can Blockchain Help Ensure Fraud Free Voting?" Mind Matters, November 27, 2020 [Link]

    (a) Reposted at BTC Express [Link]
    (b) Reposted at Jiffy 360 [Link]
    (c) Reposted at My Pipro [Link]
    (d) Reposted at Coin Hub News [Link]
    (e) Reposted at Mario Lost Coins [Link]
    (f) Reposted at Navs.com [Link]
    (g) Reposted at iammarketingmedia.com [Link]
    (h) Reposted at Daily Coin [Link]
    (i) Reposted at Block Review [Link]

90. Robert J. Marks, "WE'RE THE WALTER BRADLEY CENTER. BUT WHO IS WALTER BRADLEY?"Mind Matters, December 20, 2020 [Link]

91. Robert J. Marks, "Jill Biden: Who Should, and Shouldn't, Be Called "Doctor"?" Mind Matters, December 22, 2020 [Link]

2021

92. Robert J. Marks, "AI Tool Now Predicts Attacks of Locust Swarms for African Farmers" Mind Matters, January 7, 2021 [Link]

93. Robert J. Marks, "Most Real Numbers Are Not Real, or Not in the Way You Think" Mind Matters, January 21, 2021 [Link]

94. Robert J. Marks, "THE PRESIDENT PARDONS THE FOUNDER OF A CHURCH THAT WORSHIPS AI"Mind Matters, January 22, 2021 [Link]

6.9 Selected Talks

1988

1. Les Atlas and R.J. Marks II, Introduction to Artificial Neural Systems, College of Engineering, University of Washington, Seattle, September 15-16, 1988. (video made available from AMCEE or the College of Engineering , University of Washington).

1990

2. R.J. Marks II, "Shannon Sampling and Interpolation Theory," UW course offering recorded Spring Quarter, 1989 and Spring Quarter, 1990 (video made available from AMCEE.)

3. Artificial Neural Systems, Ireste University in Nantes France (tutorial), March 5-30, 1990.

1991

4. 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)

5. Artificial Neural Networks in Electric Power Systems (tutorial), Decisions Systems International, Monaco, July 1-3, 1991 (with M.A. El-Sharkawi).

6. Neural Networks Tutorial, First International Forum on Applications of Neural Networks to Power Systems (tutorial), Seattle, WA, July 23, 1991 (with R. Thomas and H. Mori).

7. Auditory Neural Systems and Time-Frequency Theory, IEEE Conference on Neural Networks for Ocean Engineering (tutorial), Washington D.C., August 15-17, 1991 (with L.E. Atlas).

1992

8. Artificial Neural Networks in Electric Power Systems (tutorial), Decisions Systems International, Madrid, Spain , September 7-11, 1992 (with M.A. El-Sharkawi).

1993

9. B.G. Song, R.J. Marks II, S. Oh, P. Arabshahi, T.P. Caudell and J.J. Choi, "Adaptive membership function fusion and annihilation," Fuzzy Logic and Neural Networks: Clips from the Field (FUZZ-IEEE '93), San Francisco, March 1993.

1996

10. Artificial Neural Networks: Supervised Models (tutorial), 1996 Winter Meeting, IEEE Power Engineering Society January 24, 1996, and Summer Meeting, IEEE Power Engineering Society, July 31, 1996, Denver, CO .

1997

11. R.J. Marks II, "Artificial Neural Networks: Supervised Models, in Artificial Neural Networks With Applications to Power Systems," El-Sharkawi and Niebur, Editors, IEEE Educational Activities Board, (ISBN: 0-7803-4008-6) 1997. https://youtu.be/boQcs-7PdOg

12. Modern Neural Networks: The First Decade (tutorial), IV Escola de Redes Neurais, Florianopolis , Brazil, July 21, 1997.

1999

13. Diagnostics and Control of Electric Machines Using Computational Intelligence (tutorial) IEEE IEMDC'99. International Electric Machines and Drives Conference. May 9, 1999 Seattle , Washington, USA (with M.A. El-Sharkawi).

2000

14. An Introduction to Fuzzy Inference (tutorial), IEEE PES Summer Meeting 2000, Seattle , WA.

2001

15. R.J. Marks II, *Probability and Random Processes* (YouTube)

    - ◇ Lecture 1, YouTube: http://youtu.be/SEoH-51EzaM
    - ◇ Lecture 2, YouTube: http://youtu.be/l5gMUK-Toj4
    - ◇ Lecture 3, YouTube: http://youtu.be/muVqs9tJ8Ck
    - ◇ Lecture 4, YouTube: http://youtu.be/_B1MYUPu95o
    - ◇ Lecture 5, YouTube: http://youtu.be/iHbNnXqf1Sg
    - ◇ Lecture 6, YouTube: http://youtu.be/oSyACKCkJJc
    - ◇ Lecture 7, YouTube: http://youtu.be/Q_d-NF8_px4
    - ◇ Lecture 8, YouTube: http://youtu.be/lYgce7JHZ1w
    - ◇ Lecture 9, YouTube: http://youtu.be/mZ75uM6YZLk
    - ◇ Lecture 10, YouTube: http://youtu.be/dJPNHfcFC9I
    - ◇ Lecture 11, YouTube: http://youtu.be/CO59JL9Z_0k
    - ◇ Lecture 12, YouTube: http://youtu.be/E07nr-flg8E
    - ◇ Lecture 13, YouTube: http://youtu.be/-ZV1J3Hv6dE
    - ◇ Lecture 15, YouTube: http://youtu.be/jQXMsi_pKFo
    - ◇ Lecture 16, YouTube: http://youtu.be/ph1lCDc-1UE

- ◇ Lecture 17, YouTube: http://youtu.be/j6XaLQkcee8

16. Neural Networks: The Fundamentals (tutorial), Buryat State University, Ulan-Ude, Russia, March 5, 2001.

2002

17. R.J. Marks II, *Introduction to Computational Intelligence* (YouTube)

- ◇ Lecture 1, YouTube: http://youtu.be/fgtUFzxNztA
- ◇ Lecture 2, YouTube: http://youtu.be/8RrBmnFufn4
- ◇ Lecture 3, YouTube: http://youtu.be/PCyBEy_22F4
- ◇ Lecture 4, YouTube: http://youtu.be/I_Oj1qe8jO4
- ◇ Lecture 5, YouTube: http://youtu.be/OWKzDmXV1-
- ◇ Lecture 6, YouTube: http://youtu.be/WW4sMx1-cC0
- ◇ Lecture 7, YouTube: http://youtu.be/MVHiE0NS5hY
- ◇ Lecture 8, YouTube: http://youtu.be/1sp-OHr4_YA
- ◇ Lecture 9, YouTube: http://youtu.be/EyHHxP5UHcE
- ◇ Lecture 10, YouTube: http://youtu.be/BzUZRtwAaBs
- ◇ Lecture 11, YouTube: http://youtu.be/RXHq7B0-V9s
- ◇ Lecture 12, YouTube: http://youtu.be/Ef7seYvoFFc
- ◇ Lecture 13, YouTube: http://youtu.be/rDsLmikMjG
- ◇ Lecture 14, YouTube: http://youtu.be/XOOpDhkX_k8
- ◇ Lecture 15, YouTube: http://youtu.be/pJh3dWLSigM
- ◇ Lecture 16, YouTube: http://youtu.be/LSXKLtqJ8a8
- ◇ Lecture 17, YouTube: http://youtu.be/FK33Lj382KI
- ◇ Lecture 18, YouTube: http://youtu.be/i2SHIXdHgC0
- ◇ Lecture 19, YouTube: http://youtu.be/j6-dcqivT0w

2003

18. "Perceptron Inversion: Properties and Applications", Institute of Engineering Cybernetics, Wroclaw University of Technology , Wroclaw , Poland (April 3, 2003).

19. "Fundamentals of Swarm Intelligence", APL Invited Colloquia, Applied Physics Laboratory, University of Washington (April 10, 2003).

20. "What Does Calculus Have to Do With Christianity?" San Jose State University, November 30, 2003.

21. "Swarm Intelligence: The Method Behind the Mobs", NASA Office of Biological and Physical Research Program Review, California Institute of Technology, December 17-18, 2003.

2004

22. "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).

2006

23. "Added Information in Targeted Evolutionary Search", Perry Conference, Hotel Pattee, Perry, Iowa, April 17-20, 2006.

24. "Evolutionary Search: A Free Source of Design Information?" RAPIDS 2 Conference, BIOLA, May 11-13, 2006.

25. "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) .

26. "Computational Intelligence: A Free Source of Information?" International Symposium on Neural Networks (ISNN), Chengdu, China (May 29, 2006) A Keynote Talk

2007

27. "The Need for Active Information in Evolutionary Search," Wistar Retrospective Symposium, Boston, MA (June 3-6, 2007).

28. "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).

29. Introduction to Evolutionary Informatics (tutorial), Discovery Institute Summer Symposium, Seattle, WA., July 2007.

30. "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.

2008

31. "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.

32. "What does Calculus have to do with Christianity?" SMU DCL for Faculty Commons (September 25, 2008).

33. "Measuring the Cost of Success: Conservation of Information in Evolutionary Search Algorithms," Southern Methodist University (SMU), Department of Electrical Engineering (September 25, 2008).

34. "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).

35. "What does Calculus have to do with Christianity?" Dallas Christian Leadership (DCL) at SMU for Faculty Commons (September 25, 2008).

2009

36. "Evolutionary Informatics: Measuring the Cost of Success," American Scientific Affiliation (ASA) 64th Annual Meeting, Baylor University (Sunday, August 2, 2009) with William A. Dembski

37. "Science & Christianity: Separate but Equal?" Covenant Presbyterian Church, Austin, TX (August 16, 2009)

38. "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.) [Certificate]

39. "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).

40. Information and Evolution (tutorial), Discovery Institute Summer Symposium, Seattle, WA., July 2009.

41. R.J. Marks II, "Great Expectations: Information Theory," for Ricochet.com. http://youtu.be/Uc6Ktq0SEBo

2010

42. "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.

43. "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.

44. "Time Scale Discrete Fourier Transforms," Guest Lecture, Missouri University of Science and Technology, Rolla, Mo., April 14, 2010.

45. "God Ever Geometrizes: Apologetics in Mathematics," Probe Ministries, Plano, Texas, (June 28, 2010).

46. "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).

2011

47. "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).

48. "Evolutionary Simulations and Sources of Active Information," Discovery Retreat, Santa Barbara, CA (March 1-4, 2011)

49. "Measuring Cross Harmonic Coupling in Nonlinear Systems," WMCS Advisory Board, March 31, 2011, Baylor University.

50. "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

51. "Evolution Models Do Not Create Information," Great Expectations Conferences, Borgo Finocchieto, Tuscany, Italy, June 12-16, 2011 (with Winston Ewert).

52. Power Amplifier Circuit and Waveform Optimization for Reduced Spectral Spreading in Radar Transmitters (tutorial), 4th Annual Military Radar Summit, Washington, D.C., February 7 9, 2011 (with Charles Baylis)

53. Why Design Information is Required to Find Improbable Complex Targets, Discovery Institute Summer Symposium, Seattle, WA., July 2011.

2012

54. "Information: What Is it?," January 17, 2012. [Youtube: https://youtu.be/d7seCcS_gPk], [Cache.]

55. "CHRISTIAN CALCULUS: The Impact of Christian Faith on Mathematics & Science Yesterday & Today," Sept 27, 2012 (sponsored by Baylor's ESC LLC and the Baylor Student Chapter of the American Scientific Affiliation)

56. "Joint Optimization of Radar Power Amplifier and Waveforms for Reduced Spectral Spreading," North Atlantic Treaty Organization (NATO) SET-182 Research Task Group Meeting, 2012 October 17-18, 2012 (with Charles Baylis. Remote Presentation.)

57. "Information. What is it?," Intro. to Engineering Lecture, January 17, 2012. http://youtu.be/d7seCcS_gPk

58. "God Ever Geometrizes: Apologetics in Mathematics" November 6, 2012, Texas A&M University, (sponsored by TAMU's Ratio Christi student group)

2013

59. "Information: Measuring Design & Understanding the Unknowable," 2013 National Conference & Ratio Christi Symposium, Southern Evangelical Seminary, October 11-13 2013, Matthews, North Carolina

2014

60. "Spectral Issues," Spectrum Forum, Texas Symposium on Wireless and Microwave Circuits and Systems, Baylor University, Waco (April 4, 2014)

61. "Electrical & Computer Engineering," Lorena High School, Lorena, Texas (Career Day) May 30, 2014 (with Charles Baylis and Matthew Fellows)

62. "The Impact of Christian Faith on Mathematics & Science: Yesterday & Today," (See Videos: page 90, item 65)

63. "Dr. Robert Marks: Active Information in Metabiology," May 30, 2014
http://youtu.be/tJSJg0IZtfI

64. "On Algorithmic Specified Complexity," by Robert J. Marks II. CSCA/ASA/CiS 2014 Conference, July 2014, McMaster University, Hamilton, Ontario, Published on Aug 5, 2014
http://youtu.be/No3LZmPcwyg

65. "The Impact of Christian Faith on Mathematics & Science: Yesterday & Today," Baylor Student Chapter of the American Scientific Affiliation, October 12, 2014
http://youtu.be/hdNNNJMZJ_c

66. "Alternating Projections onto Convex Sets Examples,"
https://youtu.be/_-T4Y0aof3s

2015

67. "Seven Things Not To Do With Electricity." Baylor Student IEEE Group, April 13, 2015.
https://youtu.be/BzeHgmW5xfI

68. "2015 IEEE Radar Conference Tutorial: Radar Transmitter Design for the Crowded Radio Spectrum" May 10, 2015, Texas Symposium
https://youtu.be/vrmN_2kQ8Cs

69. "Information: What Is It Anyway?" ID the Future Podcast, November 9, 2015
https://youtu.be/c2UCPX5mKio

70. Radar Transmitter Design for the Crowded Radio Spectrum (tutorial), 2015 IEEE International Radar Conference (RadarCon), Crystal City, Arlington, VA. May 10, 2015 (with Charles Baylis & Lawrence Cohen)

71. Radar in a Communications-Driven Spectrum: Innovative System, Component, and Circuit Design for the Evolving Spectrum Environment (tutorial), International Microwave Symposium, May 22, 2015, Phoenix, AZ (with Charles Baylis & Lawrence Cohen)

72. "Adaptability and Reconfigurability: Radar Operational Infrastructure Redux," DARPA Radar/Communications Co-Design Challenge, DARPA, Crystal City, VA (April 27, 2015)

73. "Effects of Power Amplifier Nonlinearities on the Radar Ambiguity Function." 2015 IEEE International Radar Conference (RadarCon), Arlington, VA. May 10, 2015

74. "Ambiguity Functions and Spectral Constraints." International Microwave Symposium, May 22, 2015, Phoenix, AZ

75. "2015 IEEE Radar Conference Tutorial: Radar Transmitter Design for the Crowded Radio Spectrum" May 10, 2015, Texas Symposium

76. Small Group Apologetics

    #1: Scientists & Their Faith
    YouTube: https://youtu.be/tpKK83Xr___s

    #2: The Origin of Life
    YouTube: https://youtu.be/iELmvoAsgzk

    #3: The Origin of Life: No Natural Explanation
    YouTube: https://youtu.be/WxItsmEHu_g The Origin of Life: No Natural Explanation

    #4: Evolution A
    YouTube: https://youtu.be/Un8F0idwx1Y

    #5: Evolution B & Where is God Math
    YouTube: https://youtu.be/Wgw9uYgq3Jo

77. "Science, Faith & Belief in God," Bridges International, Decemeber 31, 2017. [YouTube: https://youtu.be/J1rWonYk6EE]

78. "Evo-Info: Algorithmic Information Theory & Why Automata Will Never Create Information," Origin of Biological Information, Aug 19-21, Canaan Valley Resort, Davis, WV). [Youtube: https://youtu.be/RCWJXlIH7ZU].

79. "POCS: Alternating Projection onto Convex Sets Tutorial" (2016)

    (a) YouTube: Lecture #1, https://youtu.be/ooIphlOOzcE

    (b) YouTube: Lecture #2, https://youtu.be/xczjmF1j2Z0

    (c) YouTube: Lecture #3, https://youtu.be/zP7jj3iUfso

2018

80. "AI and Human Uniqueness" 2018 Discovery Summer Seminars, Seattle Pacific University, July 12, 2018, 7-9 PM, Seattle, Wa.

2019

81. "AI & ID Christian Home School Apologetics," Warren and Martha Fain, April 5, 2019. [Link: https://youtu.be/3aUAREQz4nk]

82. Robert J. Marks "How you are better than AI - and always will be: Ground truth on AI capabilities," The Human Advantage, Christ Church Anglican, Austin, TX, March 11, 2019. [Link: https://youtu.be/hG0L4F9CeIk]

83. Robert J. Marks, Jay Richards, and Kevin Stuart, "Panel Discussion at THE HUMAN ADVANTAGE" Christ Church Anglican, Austin, TX, March 11, 2019. [Link: https://youtu.be/Hwbqqvwvryc]

84. Robert J. Marks "Artificial Intelligence & Human Uniqueness" Discovery Institute Summer Institute, July 2019. [Link.https://youtu.be/em8h-WSSeyY]

85. Robert J Marks, "Does God Matter?" October 15, 2019, Bill Daniels Center, Baylor Campus, 7:00 PM (panel member).

86. George Montañez, Oren Etzioni & Robert J. Marks II, "AI s Role in Unlocking Human Potential," COSM, Seattle, Wa. October 24, 2019.

87. Robert J. Marks "Artificial Intelligence & Human Uniqueness" Discovery Institute Summer Institute, July 2019. [Link.https://youtu.be/em8h-WSSeyY]

88. Robert J. Marks "What You Do Computers Never Will: Deconstructing Artificial Hype," Oso Logos (Ratio Christi), Bill Daniels Student Center, 7:00 PM, Nov 5, 2019.

89. Eric Holloway & Robert J Marks, "Mind, Information and Creativity," Mind & Body Workshop, Seattle, WA November 16, 2019.

90. Robert J Marks, "AI, ID and Neuroscience in the Bible," Mind & Body Workshop, Seattle, WA November 17, 2019.

2020

91. Robert J Marks, "The Promise and Limitations of Artificial Intelligence," Reasonable Faith, University of Texas Dallas, Dallas, TX, Feb 22, 2020. [Facebook Video]

92. Briefing on AI & Electronic Warfare

(a) Office of Senator John Cornyn, 517 Hart Senate Office Bldg, Washington DC, 4PM, March 2, 2020.

(b) Office of Senator Ted Cruz, Russell Senate Office Bldg 127A Washington DC, 11AM, March 3, 2020.

(c) Dr. Lynne Parker, Deputy Chief Technology Officer of the US, White House, Washington, DC, 4PM, March 3, 2020.

(d) The Hudson Institute, Washington DC, 10AM, March 4, 2020

(e) The Heritage Foundation, Washington DC, 1PM, March 4, 2020

93. "Walter Bradley on Origin of Life Research" Dallas Science Faith Conference 2020, (Intro by R.J. Marks), January 25, 2020. [YouTube, Video Cache.]

94. "AI: Menace of Saviour" Intercollegiate Studies Institute, Wilmington, DE, May 16, 2020

    "317 attendees"

95. "Dr. Robert Marks: Human Exceptionalism" Reasons to Believe, Austin Chapter, August 8, 2020 [Youtube: https://youtu.be/Ji3rUI_Iu9A?t=1219, Video cache]

96. "AI's Role in Unlocking Human Potential" COSM 2019, August 14 2020 [YouTube Link: https://youtu.be/tU3xjeMdJu8, Video cache.]

    > "Can artificial intelligence replicate or exceed human knowledge and creativity? What are AI's implications for the workforce? Oren Etzioni, CEO Allen Institute for Artificial Intelligence, George Montañez, Iris and Howard Critchell Professor of Computer science at Harvey Mudd College, Robert J. Marks, Distinguished Professor of Electrical & Computer Engineering at Baylor University, and Matt McIlwain, managing director Madrona Venture Group discuss the new business and career opportunities created by artificial intelligence, and whether AI and humanity will merge at some point in the future."

97. R.J. Marks II, *Multidimensional Signal Analysis.* Text: R.J. Marks II, Handbook of Fourier Analysis and Its Applications, Oxford University Press, (2009). [Course Syllabus, Homework Problems]

    1 Chapter 1, YouTube: https://youtu.be/gor2Zo5fQwQ

    2 Chapter 2, YouTube: https://youtu.be/zZue5XHcmHg

    3 Chapter 2, YouTube: https://youtu.be/_TiRDOsXgTY

    4 Chapter 2, YouTube: https://youtu.be/7Z5FlUvJumM

    5 Chapter 2, YouTube: https://youtu.be/p8B5Sq3FlvE

    6 Chapter 2, YouTube: https://youtu.be/Fbf6GfowIqI

    7 Chapter 2, YouTube: https://youtu.be/1NkFOi5KKqI

8 Chapter 5, The Sampling Theorem, YouTube: https://youtu.be/offLi_vbMqk

9 Chapter 5, The Sampling Theorem, YouTube: https://youtu.be/J2Hria4ESi4

10 Chapter 5, The Sampling Theorem, YouTube: https://youtu.be/RqAp3HNmdjI

11 Chapter 5,Sampling Theorem; Chapter 8, Higher Dimensions, YouTube: https://youtu.be/ageztIHa

12 [Chapter 8.3 Visualizing Higher Dimensions, YouTube: https://youtu.be/-zxdGu7eZyY]

13 Chapter 8.4 Continuous Time Multidimensional Fourier Analysis 330, Youtube: https://youtu.be/nqjynI4u72Y.

14 Chapter 8.4.3 Multidimensional Convolution 333 and 8.4.4 Separability 334, YouTube: https://youtu.be/dx4dLB8N9sA

15 Chapter 8.4.5 Rotation, Scale and Transposition 336, YouTube: https://youtu.be/1QmxNQBURrU

16 Hankel Transforms, YouTube: https://youtu.be/T3X_gN_vWpQ

17 8.5 Characterization of Signals from their Tomographic Projections 345, YouTube: https://youtu.be/VaTfQgs4Hsc

18 Homework Problems, YouTube: https://youtu.be/WelQwVBDBlU

19 Radon Transform / Periodicity, YouTube: https://youtu.be/XZaKpXAI1zw

20 8.6 2D Fourier Series 352, YouTube: https://youtu.be/mroyB9AidGA

21 8.9 The Multidimensional Sampling Theorem 373, YouTube: https://youtu.be/jAXTXSGY07k

22 8.9 The Multidimensional Sampling Theorem 373, YouTube: https://youtu.be/F_3jcu4Zu88

23 11 Signal and Image Synthesis: Alternating Projections Onto Convex Sets 495, YouTube: https://youtu.be/QUiF-MJjm8E

24 11.2 Geometical POCS 496, YouTube: https://youtu.be/MPylQghm8kA

25 11.3 Convex Sets of Signals 501, YouTube: https://youtu.be/E2Q8Q7Y4MK8

26 11.3.2 Some Commonly Used Convex Sets of Signals 504, YouTube: https://youtu.be/Alp8XimaOH

27 POCS, YouTube: https://youtu.be/aBgG-iiFVrY

7 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. (co PI with C. Ramon)-$497,080.

16. Ibid. Stage 2: $104,358, 6-1-94 to 2 29, 1996

17. "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.

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

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

20. "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.

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

22. "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.

23. "Advanced Neural Network Paradigms and Applications," Boeing Computer Services, January 1, 1994 to December 31, 1996-$90,000.

24. "Wavelet Based Neural Networks," Washington Technology Center, January 1995 to June 1995, $7,000.

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

26. "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.

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

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

29. Ibid. 1997-98 $23,000;

30. Ibid. 1998-99 $23,000.

31. "UG Cable Replacement," Southern California Edison, 1997 - $50,000 (Co-PI with Mohamed A. El-Sharkawi).

32. "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.

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

34. "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.)

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

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

37. "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.

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

39. "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.)

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

41. "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.).

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

43. "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).

44. Ibid. Undergraduate support addendum, $12,000.

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

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

47. "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-PI's are Payman Arabshahi (JPL), R.J. Marks II (UW), Michael Dickinson (Cal Tech) and Alcherio Martinoli (Cal Tech), 2003-04, $200,000.

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

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

50. "Real-Time Distributed Control Networks: Dynamic Bandwidth Allocation via Adaptive Sampling" (with Ian Gravagne and John Davis, Baylor University) NSF, 3 years, $311k.

51. Ibid. Supplemental REU funds obtained for supporting summer undergraduate research ($15,000).

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

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

54. "Inversion of Swarm Dynamics for Underwater Tactical Applications," Office of Naval Research, 2009–2011, $270,000 (with Benjamin B, Thompson, ARL Penn State)

55. "Joint Optimization of Radar Power Amplifier and Waveforms for Reduced Spectral Spreading," ARL (Chales Baylis, P.I.) $62,000.

56. "Tactical Task Allocation and Resource Management in Nonstationary Swarm Dynamics," Office of Naval Research, 2012–2013, $270,000 (with Benjamin B, Thompson, ARL Penn State)

57. "Evaluation of Airport Wireless Interference Assessment and Comparison with University Campus Wireless Coexistence," TEM Consulting, (Charles Baylis, P.I., R.J. Marks co P.I.) $2000, Sept 19, 2013 to Sept 20, 2014.

58. "EARS: Joint Circuit and Waveform Optimization for Cognitive, Spectrally Confined Radar Transmission ," National Science Foundation, (Charles Baylis, P.I., R.J. Marks co P.I.) $400,000. October 1, 2013 to September 30, 2017.

59. Ibid. Supplemental $16,000 Research Experiences for Undergraduates (REU) awarded 2015. Supplemental $16,000 Research REU awarded 2016.

60. "Reconfigurable Power Amplifier and Filter Technology for Real-Time Adaptive Next Generation Radar," Army Research Laboratory, (Charles Baylis, P.I., R.J. Marks co P.I.) $1,138,455, May 2016 to June 2021

61. "Investigation of Wideband Low-Noise Amplifier Linearity in Receiver Interference Scenarios," Raytheon, January 1, 2016 – August 31, 2016, (Charles Baylis, P.I., R.J. Marks co P.I.) $9,972 (2016-2017).

62. "Business Intelligence: Application to Influence Metrics," Influence Networks, June 15, 2017 through July 31, 2017, $16,115, Robert J. Marks II (PI)

63. "Testing Theories of Entrepreneurship: Agent and Swarm Based Models of Entrepreneurial Behavior and Outcomes." June 2017 - December 2017 (with Steve Bradley) Bough Grant, $3500.

64.

65. "Artificial and Natural Intelligence: Identifying & Applying the Difference," Discovery Institute, 2018-2021, $288,790, Robert J. Marks II (PI)

66. "Software Defined Radar Option, Reconfigurable Power Amplifier and Filter Technology for Real-Time Adaptive Next Generation Radar" Army Research Laboratory, Dates of Funding: July 1, 2018 - June 30, 2020, $265,000, Charles Baylis (PI), Robert J. Marks II (Co-PI)

67. "Real-Time Optimization of Fundamental and Harmonic Load Impedances, Source Impedance, Input Power, and Bias," Sponsor: Naval Surface Warfare Center - Crane Division, Duration: July 2019 – December 2020 (option of 12 months is possible if funds become available), Baylor Funding (Base Period Only): $12,300, Other Collaborators: Purdue University, University of Toledo, Charles Baylis (PI), Robert J. Marks II (Co-PI)

68. "Wideband and High-Power Reconfigurable Plasma Matching Network for Compact and Efficient Phased Array Emitters," Sponsor: Office of Naval Research – Electronic Warfare Program, Sponsor: Purdue University, Duration: July 2019 – July 2022 (two competitive options of 12 months and 18 months possible), $274,000, Other Collaborators: Purdue University (lead), University of Toledo, University of Illinois, Charles Baylis (PI), Robert J. Marks II (Co-PI)

69. " Metacognition-Guided Real-Time Adaptable Circuit, Waveform, and Array Optimizations for Radar and Electronic Warfare" Army Research Office, Dates of Funding: September 2020 - September 2021, $350,000.00, Charles Baylis (PI), Robert J. Marks II (Co-PI)

70. "SII Planning: Developing a National Spectrum Innovation Initiative (SII) Center for Adaptive and Reconfigurable Wireless Technology" National Science Foundation, Dates of Funding: August 2020 - July 2021, $299,996, Charles Baylis (PI), Robert J. Marks II (Co-PI)

71. "Reconfigurable Array Radar Techniques for Real-Time Spectrum Sharing" Naval Research Laboratory (prime)/KeyW Corporation, $40,000, April 2020 - March 2021, Charles Baylis (PI), Robert J. Marks II (Co-PI)

72. "SWIFT: LARGE: Broker-Controlled Coexistence of 5G Wireless Artifically Intelligent Power Amplifier Array (AIPAA) with Passive Weather Radiometers" National Science Foundation, Dates of Funding: January 1, 2021 - December 31, 2023, $421,666, Charles Baylis (PI), Robert J. Marks II (Co-PI)

8 Professional Activities

8.1 Organizations

◇ Financial Neural Networks, Chief Technology Officer, 1992-1994.

- ◇ Multidimensional Systems Corporation, President, 1997-2002.
- ◇ Arbor Ministries, Seattle, Washington, Board of Directors, Secretary (2002-2012).
- ◇ Center for Evolutionary Informatics, Board of Directors, President (2008-present).
- ◇ American Institute for Technology and Science Education (AITSE), Advisory Council, (2009-2013).
- ◇ Intelligent Education, Advisory Board, (2015-present)
- ◇ Walter Bradley Center for Natural and Artificial Intelligence, 2018-present

8.2 Expert Witness

- ◇ Neuromedical Systems, Inc (Plaintiff) vs. Neopath (Defendant), United States District Court, Southern District of New York (1997-98) - Decision 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.
- ◇ Ysleta Del Sur Pueblo: Tigua Gaming Agency (Defendant)vs State of Texas (Plaintiff) -for the Defendant

8.3 Consulting

- ◇ Microsoft Corporation, Redmond, WA
- ◇ Boeing Computer Services
- ◇ Boeing Airplane Company
- ◇ 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
- ◇ American Pioneer Corporation, Ballard
- ◇ Decisions Systems Corporation, Atlanta, GA
- ◇ Inficom Corp, Redmond, WA
- ◇ DARPA, Crystal City, VA
- ◇ Lineage Media and Solutions, Inc. Bellevue, WA