Daniel N. Donahoe

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Keyword SKILLS:

Mechanical Engineer, Nuclear Surety, Reliability Engineer, Systems Engineer, Thermal Design and Analysis (HVAC), Data Centers and Shelters, Shock & Vibration, Configuration Management, Electronics Failure Analysis (MIL and commercial), Programming (Python, VBA, HTML), Microsoft Office, Proposals, Testing, Supply Chain, Management

PROFESSIONAL EXPERIENCE:

1000 kilometers, Salt Lake, UT 4/09- present
Engineering and scientific consulting

Owner (CEO) - A general engineering practice with specific focus on the western region defined by a radius of 1000 kilometers from Salt Lake City. This region includes cites including Denver, Las Vegas, Phoenix, Portland, San Francisco, San Jose (and Silicon Valley). Among companies supported, recent years only:

- Cimarron, Houston, TX (April 2024 – April 2025)
  - Sr. Systems Engineer for Bechtel Ogden, UT
- Sigma Science, Albuquerque, NM (over 12 weeks, equiv., contracted) in 2022
  - Nuclear Surety review of A&E drawings for WGF Ellsworth AFB
  - Nuclear Surety for Sentinel Program at Northrup-Grumman, Roy UT
- Odyssey Systems Consulting, Wakefield, MA (10 weeks as Odyssey employee) in 2023
  - Program Office, Peterson SFB

United States Air Force, HAFB, UT 2/16- 9/21

Systems Engineer- Ground systems (for ICBM, and C2). Retired from the DAF on September 30, 2021.

Exponent Failure Analysis Associates, Menlo Park, CA 5/05-3/09
Exponent is a leading engineering and scientific consulting firm.

Managing Engineer- Worked to build a practice supporting the broad electronics industry through promotion, leadership, technical work and communications. This work begins by finding and establishing new clients or supporting existing clients. Failure analysis techniques include standard laboratory methods such as optical microscopy, lab bench-top testing and accelerated testing but also include acoustic microscopy, SEM/EDS, XPS, FTIR. The work includes communication through numerical analysis and written and verbal means including formal reports, teleconferences, presentations and one-on-one discussions.

University of Maryland, College Park, MD 8/02-12/04
CALCE, Electronic Products and Systems Center

Assistant Research Scientist- Serving technical needs of industrial member companies in a university research setting. The main projects involved ceramics, aspects of electronics industry economics, scanning electron microscopy and other failure analysis techniques. Served as an instructor for a graduate course on sensors.

Iomega Corporation, Roy, UT 8/00-1/02
Iomega is the leading producer of removable storage.

Chief Technologist- Leading new technologies, providing interface between Management in Iomega and key new suppliers. Position focuses on work with Marketing on new product development and innovative applications of existing products.

Compaq Computer Corporation, Houston, TX 9/90-6/00
Compaq is the leading manufacturer of Personal Computers.

Principal Member of the Technical Staff- Promoted to Senior Member 12/96 and to Principal Member 10/99 from manager of reliability. This technical leadership position provides design and reliability support across the entire Compaq product line to remedy potential or actual failures of products by determining the true root cause (the Physics of Failure Approach). Review of design often leads to the personal contribution of innovative design concepts. Served as CAE manager for first 1 ½ years.

- Achieved Compaq's "Customer Advocate Award" in March of 2000 for work on improving engineering processes across all Divisions.
- Lead a team to change the PCMCIA Card Standard for thermal rating and worked to change UL1950

Teledyne, CME, Santa Clara, CA 5/89-9/90
Teledyne, CME built military electronic countermeasures equipment.

Mechanical Engineering Section Manager - Responsible for Mechanical Design and Analysis of CME's electronic products. Project Management of the design process included proposal activity, analysis, documentation and troubleshooting.

Ford Aerospace Corporation, San Jose, CA 2/88-5/89
Ford Aerospace built a wide variety of military and commercial communications electronics.

Engineering Specialist - Design Engineer for electronic Ground Equipment Systems.

- Performed worldwide facilities tour for thermal, structural, facilities and electrical upgrades and served as cognitive engineer on thermal design for building scale and rack scale design.

Motorola, GEG, Scottsdale, AZ 7/83-2/88
Motorola, GEG built a wide of military electronics with emphasis on leading edge high technology applications.

Sr. Staff Engineer - Served as Design Engineer, Assistant Project Leader and Systems Engineer on a wide variety of rugged electronics systems.

- Worked on challenging very "high g" packaging in artillery fuzes.

Lockheed, Missiles and Space Corporation, Sunnyvale, CA 3/79-7/83
LMSC built a variety of military and commercial products including the Polaris Missile and the Hubble Space Telescope.

Sr. Engineer - Thermal Analyst for Life Support Systems and spacecraft thermal control.

University of Illinois, Urbana, IL 6/77-3/79

Graduate Assistant - Researcher on campus energy conservation project and
Teaching Assistant.

- Experience with computer operating systems, source code, system simulation applications, thermal modeling and statistical analysis

PART TIME EXPERIENCE:

Instructor, Scottsdale and Glendale Community Colleges in Statistics and Electronics. 9/85-12/87
Instructor, Advanced Placement Physics, Judge Memorial High School, 2005 (Volunteer)

EDUCATION:

B.S., 1977, General Engineering, University of Illinois at Urbana.
M.S., 1979, Mechanical Engineering, University of Illinois at Urbana.
M.B.A., 1983, Business Administration, Santa Clara University.
Ph.D., 2005, Mechanical Engineering, University of Maryland, College Park.

PROFESSIONAL STATUS:

Registered Professional Engineer (P.E.) in Arizona, California and Utah
Certified Reliability Engineer (CRE) by the American Society for Quality (ASQ) – maintained 2007 to 2016.
Defense Acquisition University (DAU):

- Certified Acquisition Professional, Engineering Level III, 25 April 2018.
- Science & Technology Manager Level I, 23 December 2016.

PERSONAL INFORMATION:

Member, American Mensa (the high IQ society)

PROFESSIONAL MEMBERSHIPS and ACTIVITIES:

- Life Senior Member, Institute for Electrical and Electronics Engineers.
  - IEEE Nanotechnology Technology Council Meetings Committee 2025
  - General Chair, IEEE Nanotechnology Materials and Devices Conference 2024
  - Program Committee, Associate Editor and Track Chair IEEE Nanotechnology Materials and Devices Conference 2023
  - IEEE Utah Section Chair 2020-2021.
    - UEC & History Chair (2026-)
  - IEEE TAB ad hoc committee chair 2018, “Bounded Rationality”.
  - IEEE-USA Board of Governors Member at Large 2016-2017
  - Associate Editor IEEE Transactions (1998-2012) and IEEE Access (open access mega-journal 2013-2019)
  - Member, Consultants Network of Silicon Valley 2009-2013.
  - Society Rep. 2011-2, IEEE-USA Career and Workforce Policy Committee (CWPC)
  - Publications Chair IEEE 2013 Sustainability Technology Conference
    - Program track chair for energy efficiency
  - Vice Chair, IEEE 2014 Sustainability Technology Conference
  - Chair, IEEE 2015 Sustainability Technology Conference, multiple roles in other years Sustainability Technology Conferences
  - Member at Large IEEE CPMT (now EPS) Board 2010-2012.
    - CPMT Society representative to IEEE-USA Career and Workforce Policy Committee 2/2011
  - Chapter Chair, IEEE/SCV CPMT, 2007 (after terms as Vice Chair and Secretary)
  - Reviewer IEEE Spectrum
  - i-ETC 2022 and 2023 Technical Committee

    - Proposer of Utah Graphics Milestone – Dedication March 2023
    - Proposer of milestone for Fluorescence Detection of Cosmic Rays (underway)
    - Utah History Chair (2026-)
- Life Member, American Society of Mechanical Engineers (ASME),
  ~~Board of Governors (2023-2026)~~ nominated but refused role due to time commitment.
    - ASME/UT Executive Committee (2012-5, 2024-), Vice Chair (2012-3, 2024-).
    - Representative to the Utah Engineering Council (2014-5)
- Senior Member, American Institute of Aeronautics and Astronautics (AIAA) 2021-present
    - AIAA/Utah Chair 2024
- Member, The American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)
- Friends of the J. Willard Marriott Library (2011-present)
    - Advisory Board member http://www.lib.utah.edu/info/friends/
- Professional Member, Utah Data Center Consortia Steering Committee (2012-2015)
- University of Illinois ISE Alumni and Advisory Board (2019-2022)
- Worked standards for ASTM, IEEE and PCMCIA
- Member, Air Force Association (AFA)
- Member (elected), Millcreek City Community Council, 2022-2026

AWARDS:

- Air Force Meritorious Civilian Service Award, 30 September 2021
- AIAA/Utah nominee for Utah Engineers Council's (UEC) Engineer of the Year 2022
    - Awarded: Utah Engineer of the Year 2022
- IEEE Member Recruitment and Recovery Certificate of Recognition: For Outstanding achievement in member retention for the Utah Section during the 2021 membership year, Nov. 2021
- IEEE Region 6 Directors Award 2015
- USAF AFLCMC/HBZ Senior Scientist/Engineer Award, 21 February 2019
- IEEE 2008 CPMT Chapter of the Year
- ASME/Utah nominee for Utah Engineers Council's Engineer of the Year in both 2013 and 2015
- IEEE EPS Distinguished Achievement Certificate for Professional Engagement and Service, 3 Oct 2022.
- 2024 Alumni Award for Distinguished Service from the Grainger College of Engineering of the University of Illinois
- Team Awards:
    - USAF AFLCMC/HBZ Small Team Award, 22 August 2019
    - 2007 IEEE CPMT (now EPS) Chapter of the Year Award
    - Utah ASME Section 2025 Top Gear Award
    - IEEE Region 6 "Outstanding Corporate Service to Engineering Community" awarded to Exponent 2008
    - Silicon Valley Engineering Council (SVEC) recognition for IEEE CPMT Chapter 2009

PUBLICATIONS:

<u>Published (chronological):</u>

"Utah Section Proposes IEEE Milestone for Early Computer Graphics Work in Utah", IEEE Electronics Packaging Society (EPS) e-newsletter, April 2023.

2023 ASHRAE Applications Handbook Chapter 20 "Data Centers and Telecommunications Facilities", contributor as corresponding member of ASHRAE TC 9.9.

“You Said It” *PE* magazine, March/April 2020, p. 3.

“Convergence”, Utah Engineers Council Journal 2020, pp 36-37.

IEEE Electronics Packaging Society Newsletter, “Innovation: Hardware to Software and Back through AI””, July 2019, Volume 41 Number 2, pp 30-31.

IEEE Electronics Packaging Society Newsletter, eNews, March 2019, From Our Members, https://eps.ieee.org/images/files/enews/Dan_Donhaoe.pdf (online publication).

IEEE Electronics Packaging Society Newsletter, eNews, February 2019, From Our Members, “Printed Circuit Board”, https://eps.ieee.org/images/files/enews/3-PCB.pdf (online publication).

IEEE Electronics Packaging Society Newsletter “What Engineers Do” and “Permanent Magnets”, January 2019, Volume 41 Number 1, pp 25-28.

“Santa Clara Valley Chapter History”, pp 38-39, and “Personal Reflections on IEEE Membership” (reprint 2011 IEEE CPMT SCV Newsletter), pp 31-32, IEEE Electronics Packaging Society Newsletter, Volume 40, No. 2, July 2018.

“Technology History and the Future of On-Line Learning”, Utah Engineers Council Journal 2016, pp 32-36.

“Benefits of Joining Professional Engineering Societies”, Utah Engineers Council Journal 2015, pp 38-41.

“Where’s the Silicon in Silicon Valley”, EE Times, 22 Sept 2014.

“Canary in a Coal Mine: Issues in Efficient Cooling of Data Centers”, IEEE-USA SusTech Conference 2014, July 2014, pp 86-89.

“Is the Incubator a State University Role? “, ASME Mechanical Engineering, April 2014, p 8, 9.

Book Review: Encyclopedia of Thermal Packaging, IEEE CPMT Newsletter, Vol 30 No 1, Winter 2014, pp15-16.

“The Definition of STEM? “Today’s Engineer, IEEE-USA, December 2013.

“Why Do Managers Believe a Skills Gap Exists”, Today’s Engineer, IEEE-USA, November 2013.

“Not Curbing Emissions, But Outsourcing Them”, Mechanical Engineering, ASME, November 2013, p 8.

“Engineers Taking Political Action”, Utah Engineers Council Journal 2013, May 2013, pp. 46-50, http://utahengineerscouncil.org/yahoo_site_admin/assets/docs/UEC_Journal_2013.121194412.pdf

“Thermal Challenges in Electronics”, Advancing Microelectronics, Vol. 39, No. 5, September/October 2012, pp. 22-24.

“On Risk – the Human Aspect of Technical Change”, 5 July, 2012, http://www.insights.cermacademy.com.

“Flying High on Wings of Fiber”, Business in Utah, April 2012, pp. 24-30.

“Reversing the Loss of STEM Careers”, Today’s Engineer, IEEE-USA, 12 March 12, 2012, http://www.todaysengineer.org/.

“Growing Utah’s Economy by Technology Guilds” (with Marshall N. Wright), Utah Engineers Council Journal, 2012, Feb. 2012, pp. 21-24, http://utahengineerscouncil.org/UECJournal 2012.

“Personal Reflections on IEEE Membership”, CPMT Santa Clara Valley Newsletter, Volume 1, No. 2, Summer 2011, pp 1-5, http://www.cpmt.org/scv/docs/nstl-1108.pdf

“Moisture in Electronics Packaging” (with Poliskie, G.), Advancing Microelectronics, Vol. 38, No. 2, March/April 2011, pp. 8-10.

“The Magic of Surface Science in Electronic Products”, Silicon Valley Engineering Council Journal, Vol. 3, http://www.svec.org, February 2011, pp. 18-26.

“Ceramics in Modern Electronics” (with Poliskie, G.), Advancing Microelectronics, Vol. 37, No. 2, March/April 2010, pp. 6-8.

“Plastics in Electronics” (with Poliskie, G.), Silicon Valley Engineering Council Journal, Vol. 2, http://www.svec.org, February 2010, pp. 22-31.

“Thermal Aspects of LED Automotive Headlamps”, IEEE Vehicle Power and Propulsion Conference, 7-11 Sept 2009, Dearborn, MI, pp. 1193-1199.

“The Chemistry of Halogen Free Electronics” (with Poliskie, G.), Advancing Microelectronics, Vol. 36, No. 4, July/August 2009, pp. 22-24.

“Silicon Valley Engineering Council Journal”, Volume 1, http://www.svec.org, February 2009 (Editor).

“Contributions of the University of Illinois to Silicon Valley”, Engineering at Illinois, http://engineering.illinois.edu, January 2009.

“Electronics Reliability, More than Temperature”. Continuity, Newsletter of the Electronics and Communication Division, ASQ, Winter 2008, January 2009, pp.5-7.

“Accelerated Life Testing” (with Zhao, K., Murray, S., Ray, R.), Wiley Encyclopedia of Quantitative Risk Assessment, Melnick E and Everitt B (eds), John Wiley & Sons Ltd, Chichester, UK, 2008. (2019 update)

“Engineers Week: How Things Have Changed Since 1952.” Utah Engineers Council Journal, pp. 30-35, February 2007.

“Moisture Induced Degradation of Multilayer Ceramic Capacitors” (with M. Pecht, I. Lloyd and S. Ganesan)., Journal of Microelectronics Reliability, Vol. 46, Issues 2-4, pp. 400-408, February–April 2006.

“New Aging Mechanism in Multilayer Ceramic Capacitors” 2005 (with M. Pecht), Advanced Packaging Magazine, June 2005.

“Moisture in Multilayer Ceramic Capacitors,” Ph.D. Thesis, University of Maryland at College Park, January 2005. (Note: Dissertation has been downloaded from the university library over 8000 times.)

“The Transition of Electronics to China,” Chapter 13 in China's Electronic Industry, M. Pecht, and Y. Chan (eds.), CALCE Press, pp. 261-275, College Park, MD, 2004.

“Determination of the Life Cycle Environment,” Chapter 12 in Parts Selection and Management, M. Pecht (ed.), Wiley-Interscience, pp. 145-170, Hoboken, NJ, 2004 (with N. Vijayaragavan and M. Pecht).

“Are U.S. Jobs Moving to China?” (with M. Pecht), IEEE CPT, pp. 682–686, September 2003.

“Failures in Base Metal Electrode (BME) Capacitors” (with C. Hillman and M. Pecht), 23rd Annual CARTS Proceedings, pp. 129–133, April 2, 2003).

“China's Electronic Manufacturing Services,” Chapter 6 in China's Electronic Industry, M. Pecht and Y. Chan (eds.), CALCE Press, College Park, MD, pp. 261-275, 2003 (with J. Wu, Q. Haiyu, and D. Donahoe).

“Reliability and Assessment of Electronic Systems and Equipment,” IEEE CPT, pp. 127–128, March 1999 (with J. Cartwright and M. Jackson).

“Bedrock of Electronics,” Mechanical Engineer, pp. 62–63, November. 1986.

“CERDIPS as Gun Rugged Artillery Fuze Components,” ASME Winter Annual Meeting, December 1984 (with A. Meyer and K. Hanson).

“A Computer Model of a Campus Building,” M.S. Thesis, University of Illinois at Urbana-Champaign, May 1979.

“Energy Survey—Reduction of Energy Consumption” (with G. Bloomberg, S. Mair, and D. Nelson), B.S. Thesis, University of Illinois at Urbana-Champaign, May 1977

Publication Contribution Acknowledgements:

“2023 ASHRAE Handbook, HVAC Applications” Chapter 20, “Data Centers and Telecommunication Facilities”.

Poliskie, M. [Ed], “The Planning and Execution of Human Missions to the Moon and Mars, Progress in Astronautics and Aeronautics”, Volume 266, 2023.

Public Presentations (chronological):

IEEE SusTech Talk (virtual series): Remarkable Evolution of Solar Technology, 7/29/2025.
https://ieeetv.ieee.org/video/remarkable-evolution-of-solar-technology-dan-donahoe-sustechtalks-july-2025

ASME and AIAA, “System Engineering Perspective of NASA’s Fantastic Voyager Mission as 50th Anniversary Approaches”, 18 April 2025 with Jamie Rankin.

ASME and the University of Utah Mechanical Engineering Alumni Society, “Climbing the Career Ladder”, 27 March 2025.

University of Illinois undergraduate courses ISE 290 and ECE 298 course presentation on 11/7/24 and 11/12/24 respectively titled “The Role of Business Fashion in Engineering Careers”.

IEEE Foothill Section, report on milestone awards, 9 Jan 2024.

“Electronic Materials and Components Enabling Sustainability”, IEEE SusTech 2023, April 22, 2023.

“Why Utah?”, An IEEE Milestone Dedication Event, The University of Utah John and Marcia Price College of Engineering, 24 March, 2023.

“The Importance of Joining Professional Societies”, IEEE Utah Section YP, 2 December 2021.

“Engineering Careers”, Engineering in Residence Program (SE 290), University of Illinois at Urbana-Champaign ISE Department, 1 April 2021.

“Reflections on Engineering”, University of Maryland, 31 August 2016.

“The Economics of Engineering: Is Professional Licensure Relevant in Today’s Economic Realities?”, Annual Meeting of the National Society of Professional Engineers (NSPE), Seattle, 17 July 2015.

Politics and Engineering, IEEE Boise Section, Idaho State Capitol, 28 April 2015.

IEEE Young Professionals and Society of Women Engineers, 3rd Thurs Tech Happy Hour, Salt Lake City, 19 Feb 2015.

Technology History and the Future of On-Line Learning, Symposium on Emerging Trends in Higher Education, University of Utah, 27 Feb 2015 and for ASME Student in Industry Day, University of Utah, 3 April 2015.

IEEE Young Professionals and Society of Women Engineers, 3rd Thurs Tech Happy Hour, Salt Lake City, 19 Feb 2015.

Panel Session, Utah Data Center Consortium, Open House, 17 September 2014.

“Canary in a Coal Mine: Issues in Efficient Cooling of Data Centers”, IEEE-USA SusTech Conference, July 26 2014.

“Corrosion Risks in the Data Center”, Utah Data Center Consortium, 16 July 2014 (with Amanda D Smith).

“Why Professional Society Membership?” IEEE Chapter, Weber State University, 15 October 2013.

“It’s Time for Planning Your Engineering Career”, University of Utah, 10 Sept. 2013.

“Progress in Energy Efficiency”, IEEE SusTech Conference, Portland OR, 3 August 2013, http://sites.ieee.org/sustech/files/2013/12/EE-2_Donahoe-for-IEEE-USA-Sustec2013-080213.pdf

“Illinois’ Contributions to Engineering, Regionalism, Current Challenges”, IEEE Chicago Section, 13 June 2013.

“Economic Changes in the Engineering Profession”, Utah Society of Professional Engineers, 18 May 2013.

“Reflections on Electronics with a Thermal Focus”, ASME: Utah State University, 10 December 2012.

“Utah Data Center Opportunities”, Utah Data Center Consortia Steering Committee, 23 August 2012.

“Engineering Solutions using Excel with Visual Basic for Applications (VBA)”, ASHRAE, 4 May 2012.

“It’s Time for Planning Your Engineering Career”, University of Utah ECE 3900 (The Junior Seminar by Professor O. Gandhi), 25 October 2011 and 11 September 2012.

“Useful Metrics for Failure Rate as a Function of Time”, San Jose, ASQ Quality Conference 2010, 22 October 2010 (with Harry White).

“Technology Showdown”, Utah ASHRAE Annual Sustainability Conference, Salt Lake, UT, 7 May 2010.

“Economics of Technology and the Engineering Career,” Joint Meeting of IEEE GOLD and the University of Utah IEEE Student Branch, Salt Lake, UT, 29 October 2009.

“Thermal Aspects of LED Automotive Headlamps”, IEEE Vehicle Power and Propulsion Conference, Dearborn, MI, 11 Sept 2009.

“LED Automotive Headlights”, IEEE Utah Section, Salt Lake, 12 August 2009.

“Halogen Free Electronics,” IEEE CPMT and PSES Santa Clara Valley Chapters, Sunnyvale, CA, 14 December 2008 (with G. Poliskie).

“Contributions of the University of Illinois to Silicon Valley,” Technology Entrepreneur Center, Champaign, IL, 14 November 2008.

“Heat Transfer Applied to Electronics Design,” Refrigeration and Air Conditioning Center, Champaign, IL, 14 November 2008.

“The rocky marriage of technology and quality, how technological maturity drives quality both up and down,” ASQ Golden Gate Section, Jack London Square, February 19, 2008 and San Jose State University 21 April 2008.

“CPMT Santa Clara Valley 2007 Report,” IEEE/Santa Clara Valley Section Executive Committee, 5 September 2007.

“Running a Successful Chapter,” IEEE/Santa Clara Valley Section 2007 Officer Chapter Training, 20 January 2007.

“Economics of Technology and the Engineering Career,” San Jose State University, 26 April 2006 (panel discussion).

“RoHS: 1 of 6, Eutectic tin-lead solder is one of 6 prohibited substances,” ASME/Santa Clara Valley Chapter, Menlo Park, CA, 20 April 2006 (with A. Fasching-James).

“Economics of Technology and the Engineering Career,” Joint Meeting of the IEEE CPMT and GOLD Chapters, Sunnyvale, CA, 12 April 2006 (with G. Poliskie).

“Drift in Multilayer Ceramic Capacitors,” IEEE CPMT Santa Clara Valley Chapter, Sunnyvale, CA, Feb. 2006.

“Connect with and Strengthen Your Supply Chain,” NEMI Sensor Technology Working Group, Herndon, VA, June 23, 2004 (with S. Ganesan and M. Pecht).

“Risks to Off-Shoring Strategic Electronic Parts,” IMAPS, Baltimore, March 28, 2004 (with M. Pecht).

“Fighting the War in the Airwaves,” IMAPS, Baltimore, MD, March 12–14, 2003 (with O. Ramahi and M. Pecht).

“Finance, Physics and Capacitors,” IPC Chesapeake Chapter, College Park, MD, January 2003.

“MEMS Roadmapping,” ASME IMECE, New York, NY, November 2001.

“Electronics Packaging,” IEEE Utah Section Meeting, Roy, UT, June 2001.

Presentation at ASME (IMECE) on MEMS Roadmapping, New York, NY, November 2001.

Compaq Seminar Series, Houston, TX and College Station, TX, 2000.

Houston Hispanic Career and Education Forum, George R. Brown Convention Center, Houston, TX, January 2000.

ASME IMECE, Presentation on Engineering Education, Nashville, TN, November 1999.

“A Computer Hard Drive CFD Model: Turbulent Model Considerations,” ASME IMECE EEP-1 Symposium on Benchmark Problems for CFD, 18 Nov 1998.

PATENTS and TRADEMARKS:

“1000 kilometers”, Service Mark, Registration Number 3747747, February 9, 2010.

“Method to Sort Capacitors by Electrode Type,” U.S. Provisional Patent Application No. 60/557,590, March 20, 2004.

“Method, System and Apparatus for Indoor and Outdoor Track and Field Split and Finish Times with Backup Features by Computer Vision,” U.S. Provisional Patent Application No. 60/378,321, May 8, 2002.

“Method, System and Apparatus for Competitive Swimming Split and Finish Times with Backup Features by Computer Vision,” U.S. Provisional Patent Application No. 60/359,749, February 27, 2002.

“Apparatus for Liquid Cooling of Specific Computer Components,” U.S. Patent No. 6496367, December 17, 2002.

“Apparatus for Liquid Cooling of Specific Computer Components,” U.S. Patent No. 6333849, December 25, 2001.

“Apparatus Including Heat Sink Structure for Removing Heat from a Printed Circuit Board,” U.S. Patent No. 5953211, September 14, 1999.

“Method and Apparatus for Transferring Heat from a PCMCIA Card,” U.S. Patent No. 5808869, September 15, 1998.

“PCMCIA Card Heat Removal Apparatus and Methods,” U.S. Patent No. 5793609, August 11, 1998.

“Liquid Cooled Computer Apparatus and Associated Methods,” U.S. Patent No. 5757615, May 26, 1998.

“PCMCIA Card Heat Removal Apparatus and Methods,” U.S. Patent No. 5475563, December 12, 1995.