



Dr. Harry D. Fair

Executive Director, Institute for Strategic and Innovative Technologies
President, Oaks Plasma, LLC.

E-mail Address: fair.isit@gmail.com

Background

Dr. Harry D. Fair is the Founding President of Fair Oaks Plasma, Inc. and Oaks Plasma, LLC (2009) and the founding Director of the Institute for Strategic and Innovative Technologies (2010), a 501.C.3 not-for-profit research institute. Dr. Fair spent much of his early research career with the U.S. Army and then with the Defense Advanced Research Projects Agency (DARPA) and the Strategic Defense Initiative Organization (SDIO). In 1990, he founded and was the Director of the Institute for Advanced Technology (IAT), the U. S. Army's first University Affiliated Research Center (UARC), at The University of Texas at Austin until 2010. The IAT focuses on research in hypervelocity physics and electrodynamics and became one of the world leaders in these technologies. An experienced laboratory director, program manager, and physicist. Dr. Fair creates, directs, and manages complex multi-disciplinary technical efforts of national importance. Among these are the Joint DARPA/Army/Marine Corps Program on Armor/Anti-Armor, the National Program on Electromagnetic Propulsion, the Advanced Kinetic Energy Technology Program for the Strategic Defense Initiative, the Army Propulsion Program, and the Army Program on Solid-State Physics and Chemistry of Explosives and Reactive Materials. Dr. Fair holds a Ph.D. in solid-state physics and an M.S. in chemical physics from the University of Delaware; he received a B.S. in physics from Indiana University of Pennsylvania. He was a visiting professor at the University of Paris, at the Royal Institution of Great Britain, and at The University of Texas at Austin. He has co-authored over 200 technical publications, including two books on Energetic Materials and is the senior editor of the Seventeen IEEE Proceedings of the International Symposium on Electromagnetic Launch Technology.

THE INSTITUTE FOR STRATEGIC AND INNOVATIVE TECHNOLOGIES is a non-profit 501(c)(3) charitable research institute created to address critical global challenges through advanced science and technology. The Institute seeks practical solutions to selected global issues through international collaboration, research and scientific exchange of the world's leading scientists and technologists. The Institute provides a forum for performing focused studies, international seminars and symposia and operates state of the art physics and simulation and modeling research laboratories to identify, develop and commercialize technical solutions to selected global challenges. The Institute current has several major focus areas:

- Electromagnetic Launch and Propulsion Technology - The Institute hosts and Organizes the International Launch Technology Symposia - www.emlsymposium.com

- Plasma Gasification and Conversion of Waste Materials to Energy - The Institute has transferred AC plasma torch technology from Russia to the U.S. to efficiently convert waste materials to useful energy. www.isitaustin.org/projects
- Low Cost Access to Space – The Institute is evaluating new hypervelocity electromagnetic concepts for launching materials to space using purely electromagnetic energy.
- Hybrid Forecasting- Carolyn Meinel has assembled a strong team of machine and human forecasters and integrated them into a world-class team of hybrid forecasters.

Education

1958	B.S., Physics, Indiana University of Pennsylvania
1960	M.S., Chemical Physics, University of Delaware
1966	Ph.D., Solid State and Chemical Physics, University of Delaware
1973	University of Paris
1974	Royal Institution of Great Britain

Professional Experience

2009 – present	Founder and President, Oaks Plasma, LLC., Austin, Texas
2010 – present	Founder and Director, Institute for Strategic and Innovative Technologies, Austin, Texas
2010 – present	Consultant/Subject Matter Expert on Electric Fires Technology, Loch Harbour Group, Alexandria, Virginia
1990 – 2010	Founder and Director, Institute for Advanced Technology, a University Affiliated Research Laboratory in Electrodynamics and Hypervelocity Physics, The University of Texas at Austin, Austin, Texas
1989 – 1990	Founder and Director, Institute for Advanced Technology, The University of Texas at Austin, Austin, Texas
1987 – 1989	Visiting Professor, The University of Texas at Austin, Department of Electrical Engineering, Austin, Texas
1985 – 1987	Director, Joint DARPA/Army/Marine Corps Program Office and Assistant Director, Tactical Technology Office, DARPA
1983 – 1985	Program Manager, DARPA/ SDI Hypervelocity Physics Program
1983 – 1985	Director, Land Warfare Division, DARPA
1981 – 1986	Program Manager, National Program on Electromagnetic Propulsion
1977 – 1981	Director, Propulsion Technology Laboratory, US Army
1975 – 1977	Director, Solid State Physics and Chemistry Laboratory, U S Army
1974 – 1974	Visiting Professor, University of Paris
1973 – 1974	Visiting Professor, Royal Institution of Great Britain
1971 – 1973	Director, Solid State Physics Laboratory, U S Army
1965 – 1971	Director Energy Conversion Branch, U S Army

Academic Experience

1987 – 1989 Visiting Professor, The University of Texas at Austin
1975 Visiting Professor, Royal Institution of Great Britain, London, UK
1974 Visiting Professor, University of Paris, France
1973 – 1979 Adjunct Professor, University of Delaware, Newark, Delaware
1969 – 1981 Post Doctoral Advisor, National Academy of Sciences, National Research Council
1993 - 1995 Guest Lecturer, Georgetown University National Security Studies Program

Awards, Honors, and Recognitions

Earl Warren Medal from United States Government (2012)
Fifteenth Annual Edison Award and Medal, Institute of Electrical and Electronics Engineers (IEEE), 1982
Lavrentov Medal from Russian Academy of Sciences, Novosibirsk, Russia
Founders Award, International Hypervelocity Impact Society, 1998
Founders Award, Symposium on Electromagnetic Launch Technology, 1988
Founding Board of Directors, Hypervelocity Impact Symposia, (biennial), 1986
Founder and Chairman International Permanent Committee, IEEE International Symposia on Electromagnetic Launch Technology, 1980 - present (biennial)
Organizer and Chairman, National Advisory Panel on Electromagnetic Propulsion, 1978
First Annual Citation for Achievement by Indiana University of Pennsylvania, 1977
Outstanding Achievement Award from Assistant Secretary of Army (R&D), 1972, 1974
Department of Army Research & Development Award, 1972
Outstanding Young Men of America, 1971
National Research Council, National Academy of Sciences Post-Doctoral Advisor, 1969 – 1981
American Men of Science, 1967
Who's Who in the East, 1973
Who's Who in America
Who's Who in the South and Southwest

Recent Publications (Selected Books and Journals)

Energetic Materials, Physics and Chemistry of the Inorganic Azides , Harry D Fair and R F Walker, McGraw Hill, New York

Energetic Materials, Applications of Inorganic Azides, Harry Fair and R F Walker, McGraw Hill, New York

Dr Fair has been the organizer of all of the 17 International IEEE EML Symposia and senior editor of all of the **special EML issues of the IEEE Transactions on Plasma Science**, and **IEEE Transactions on Magnetism**, from 1980 to the present.

Dr Fair has published over 200 technical reports and publications.

Recent Technical Publications

- Alexander Zielinski, Harry Fair, Leigh Winfrey and Mohamed Bourham, -“Modeling and Analysis of a Dual Channel Plasma Torch in Pulsed Mode Operation for Industrial, Space and Launch Applications”, IEEE Trans. Plasma Science, Vol. 43, Issue 7, pp. 2201-2206, July 2015
- H. D. Fair, “ Electromagnetic Launch Technology “ Guest Editorial in IEEE Transactions on Plasma Science, vol.43, 1112-1117, 2015, 17th Electromagnetic Launch Technology Symposium, July 7-11, San Diego, CA.
- H.D. Fair, “ The Past, Present and Future of Electromagnetic Launch Technology and the IEEE International EML Symposia” Guest Editorial in IEEE Transactions on Plasma Science, vol.41 pp1024-1027, 2013, 16th Electromagnetic Launch Technology Symposium, May 15-19, Beijing, China.
- H. D. Fair, “Electromagnetic Launch Technology in the United States” 15th Electromagnetic Launch Technology Symposium (EML), 17-20 May, 2010, Royal Military Academy, Brussels, Belgium
- H. D. Fair, “Advances in Electromagnetic Launch Science and Technology and Its Applications,” IEEE Transactions on Magnetics ,14th C (EML), June 10-13, 2008, Victoria, British Columbia, Canada IAT.P 1025.
- E. Schmidt and H. D. Fair, The Institute for Advanced Technology—Advancing the State of the Art in Electromagnetic and Hypervelocity Research, Army Acquisition, Logistics & Technology, October-December 2007, ISSN 0892-8657, December 2007, pp. 20-23, IAT.P 0965.
- H. D. Fair, “Progress in Electromagnetic Launch Science and Technology in the United States,” IEEE Transactions on Magnetics, 43, no. 1, 93-98, January 2007. 13th Electromagnetic Launch Technology Symposium (EML), May 22-25, 2006, Potsdam, Brandenburg, Germany (IAT.P 0867).
- H. D. Fair, “Electromagnetic Launch Science and Technology in the United States Enters a New Era,” IEEE Transactions on Magnetics, vol. 41, no. 1, pp. 158-164, January 2005. 12th Symposium on Electromagnetic Launch Technology (EML), May 25-28, 2004, Snowbird, Utah (IAT.P 0721).
- H. D. Fair, “Electromagnetic Launch,” International Journal of Impact Engineering, vol. 29, nos. 1-10, pp. 247-262, December 2003. Hypervelocity Impact Symposium (HVIS), December 7-11, 2003, Noordwijk, The Netherlands (IAT.P 0579).
- H. D. Fair, “Electric Launch Science and Technology in the United States,” IEEE Transactions on Magnetics, vol. 39, pp. 11-17, January 2003. 11th Electromagnetic Launch Symposium, May 14-17, 2002, Saint-Louis, France (IAT.P 0576).
- H. D. Fair, “The Science and Technology of Electric Launch,” IEEE Transactions on Magnetics, vol. 37, no. 1, pp. 25-32, January 2001. 10th Symposium on Electromagnetic Launch Technology (EML), April 25-28, 2000, San Francisco, California (IAT.P 0461).