

**Mr. Bruce Walker Ferguson**  
**Head, Institute Center for Innovation and Entrepreneurship and Professor of Practice, Engineering Systems and Management**  
**Masdar Institute of Science and Technology**  
**UAE**

**Degrees**

J.D., Harvard Law School, 1981  
 M.B.A., Harvard Business School, 1981  
 Ed.M., Harvard Graduate School of Education, 1976  
 A.B. magna cum laude (Government), Harvard College, 1976

**Employment**

2012-present                      Head, Institute Center for Innovation and Entrepreneurship and Professor of Practice, Engineering Systems and Management, Masdar Institute of Science and Technology, Abu Dhabi, U.A.E. Formed and operated in collaboration with the Massachusetts Institute of Technology, the Masdar Institute provides research-driven graduate instruction in advanced energy and sustainable technologies to 400 young scientists and engineers from around the world. Professor Ferguson is developing new research projects, course offerings, and external partnerships in the areas of technology management, innovation and entrepreneurship.

Nov 2013-present	Institute Student Recruitment Committee
Jul 2013-present	Head, Institute Center on Innovation and Entrepreneurship (iInnovation)
Jul 2013-present	Institute Research Council
May 2013-Jun 2013	Chair, Ad Hoc Committee on MI-MIT Collaboration
Nov 2012-Jul 2013	ESM Department Faculty Recruitment Committee
Sep 2013-present	Lead Instructor, ESM 507, Management and Entrepreneurship for Engineers
Jan 2013-Jun 2013	Lead Instructor, ESM 518, Managing Technology and Innovation

1998-present                      Chairman, Co-Founder, and from 1998-2011, President and Chief Executive Officer, Edenspace Systems Corporation. Headquartered in Kansas and with offices outside Washington, D.C., Edenspace is a privately-held plant biotechnology company developing innovative crops for energy and environmental applications, including bioengineered crops for low-cost production of cellulosic biofuels and biochemicals. Edenspace is also a commercial leader in a process of sustainable environmental cleanup called phytoremediation.

- 2012 Executive in Residence, Johns Hopkins University Carey School of Business, Baltimore, Maryland.
- 1997-1998 Fellow, George Washington University Center for International Science and Technology Policy and the Space Policy Institute, Washington, D.C.
- 1983-1997 Co-Founder, Orbital Sciences Corporation (NYSE:ORB), Dulles, Virginia. A New York Stock Exchange company, Orbital currently has more than 3,800 employees and sales of \$1.4 billion. From 1993 to 1997, Ferguson managed Orbital's Magellan division that built and marketed commercial Global Positioning System (GPS) receivers. He also led the introduction of low-Earth orbit communications and observation satellite systems to provide new worldwide services. From 1982 to 1993, Ferguson played a lead role in arranging collaborations and financing for projects that included development of the first privately-funded orbital launch vehicles, including the Space Shuttle-launched Transfer Orbit Stage for boosting spacecraft from Shuttle orbit to geosynchronous orbit and planetary trajectories; the aircraft-launched Pegasus for delivering small research and communications spacecraft into low Earth orbit; and the ground-launched Taurus for delivering larger payloads into low Earth orbit. Positions included:
- 1982-2002 Board of Directors
  - 1993-1997 Executive Vice President and General Manager, Communications and Information Services Group. Businesses included three subsidiaries:
    - Chairman, Orbital Imaging Corporation (now GeoEye, Inc.)
    - Chairman, Orbital Communications Corporation (now ORBCOMM)
    - Chairman, Magellan Corporation (acquired by MiTAC International Corporation)
  - 1989-1993 Executive Vice President and Chief Operating Officer
  - 1985-1989 Senior Vice President/Finance and Administration and General Counsel
  - 1982-1985 Vice President/Finance and General Counsel
- 1981-1983 Attorney, Kirkland & Ellis, Chicago, Illinois. A member of the corporate and securities department, working on mergers and acquisitions and venture capital transactions.
- 1979-1981 Assistant Senior Tutor, Quincy House, Harvard College. Residential appointment.
- 1975-1976 Teaching Fellow, Faculty of Arts and Sciences, Harvard University. Natural Sciences 118, a course on population, resources and the environment led by Dr. Roger Revelle.

## Other Professional and Community Experience

2012-present	Associate Member, Institute of Electrical and Electronics Engineers (IEEE)
1993-present	Trustee, Carnegie Institution of Science
2013-present	Vice Chairman
2013-present	Executive Committee
2009-present	Nominating and Governance Committee
1997-present	Audit Committee; Chairman 2002-2003
1993-present	Development Committee; Chairman 1999-2009
1993-2009	Budget and Operations Committee
1995-2009	Visiting Committees, Department of Plant Biology, Department of Global Ecology, Department of Astronomy, Geophysical Laboratory, Department of Terrestrial Magnetism, Department of Embryology
1993-2008	Research Committee
2002	Carnegie President Search Committee
1982-present	Angel Investor. Personally invested in twelve private technology companies, serving on the Boards of Directors of nine.
1981-present	Member, Illinois Bar Association
2012	Board of Directors, Great Falls Trail Blazers
2011-2013	Board of Governors, Food and Agriculture Committee, Biotechnology Industry Organization
2010-2012	Vice Chairman, Kansas State University Research Foundation
2008-2009	Co-Chairman, Small Business Issue Team, Center for the Study of the Presidency's <i>Strengthening America's Future Initiative</i> , and member, Study Group on Presidential Science and Technology Advisory Assets
2008-2009	Kansas Innovation Consortium
1996-1998	Trustee Council, Phillips Exeter Academy
1996-2003	Technology Council, Harvard Graduate School of Education
1992	United States Delegation, World Administrative Radio Conference, Torremolinos
1992-1994	Co-founder and Organizational Head, Explorer Post 1992, Boy Scouts of America
1991-1993	Business/Industry Advisory Council, Fairfax County Public Schools

- 1990-1992 Board of Directors, Washington Space Business Roundtable
- 1979-1981 Harvard Law Review: Associate Editor 1979-1980; Articles Editor 1980-1981

### **Honors and Awards**

- 2008 Kansas BIO Big Thinker Award
- 1999 Harvard Business School Alumni Achievement Award
- 1990 Laurels Award, Aviation Week & Space Technology
- 1976-1977 Rotary Foundation Ambassadorial Scholar, Delhi University, India, MA Political Science course
- 1973 Captain, U.S. Eastern Association of Rowing Colleges Champion Freshman Lightweight Crew
- 1972-1976 Harvard National Scholar (Honorary)

### *Affiliated Institutions*

- 2008 Energy Innovator Award, U.S. Department of Energy (Edenspace, biofuels)
- 2004 Technology Award, Environmental Business Journal (Edenspace, phytoremediation)
- 1999 DaimlerChrysler Environmental Excellence Award (Edenspace, phytoremediation)
- 1991 National Medal of Technology (Orbital Sciences, Pegasus launch vehicle team)
- 1990 National Air and Space Museum Trophy (Orbital Sciences, Pegasus launch vehicle team)
- 1989 DARPA Outstanding Technical Performance Award (Orbital Sciences, Pegasus launch vehicle team)

### **Patents and Patent Applications**

Blaylock, Michael, Bruce Ferguson, and David Lee. Energy Crops for Improved Biofuel Feedstocks. U.S. Patent No. 8,237,014, issued August 7, 2012.

Blaylock, Michael, Vicki Chandler, Charissa Poynton, and Bruce Ferguson. Plant Biosensor Systems. U.S. App. No. 10/882,632.

Pappan, Kirk, Deisy Corredor, Ramesh Nair, Michael Blaylock, Forrest Chumley, David Lee, and Bruce Ferguson. Tempering of Cellulosic Biomass. U.S. App. No. 61/153,266.

Blaylock, Michael, Bruce Ferguson, and David Lee. Systems to Reduce Recalcitrance of Cellulosic Biomass and Increase Yields of Fermentable Sugars. U.S. App. No. 61/219,276.

Pappan, Kirk, Deisy Corredor, David Lee, Ramesh Nair, Bruce Ferguson, and Michael Blaylock, Biomass Extracts and Uses Thereof. U.S. App. No. 61/359,331.

### **Publications**

Ferguson, B.W. "Ecosystem Innovation." 14 The National 3 March 2013.

Elles, M.P., B.W. Ferguson, C.A. Bray, S. Patch, H. Mielke, and M.J. Blaylock. "Collateral Benefits and Hidden Hazards of Soil Arsenic During Abatement Assessment of Residential Lead Hazards." Environmental Pollution 156:20-28 (2008).

Ferguson, B.W. "Systems Agriculture: Towards a Sustainable Agricultural and Environmental Policy." NABC Report 17: Agricultural Biotechnology: Beyond Food and Energy to Health and the Environment, National Agricultural Biotechnology Council (2005).

Ferguson, B.W. "Private Industry and Space: International." Magill's Survey of Science: Space Exploration, Salem Press (1989).

Ferguson, B.W. "International Coordination of Space Commercialization Policies." Paper IAA-88-580, 39th Congress of the International Astronautical Federation (1988).

Ferguson, B.W. "Space Commerce." Letter, Science 226:240 (1984).

Ferguson, B.W. "LaSalle v. Rosewell and the Tax Injunction Act." Case Comment, Harvard Law Review (1980).

## **Presentations**

### *Last Five Years*

39. Ferguson, B.W. "Financing Entrepreneurship." Lecturer, Entrepreneurship Weekend, New York University Abu Dhabi, November 9, 2013.

38. Ferguson, B.W. Moderator, Discussion with Mr. Tariq Al Gurg, Chief Executive Officer, Dubai Cares, Masdar Institute, Abu Dhabi, September 10, 2013.

<http://lectures.masdar.ac.ae/Mediasite/Play/bd32b008e63849959b5fcd6746500a5b1d>

37. Ferguson, B.W. "Innovation and Sustainability." Speaker, TEDxWWF Conference, Abu Dhabi, May 2013.  
<http://www.youtube.com/watch?v=NcvW1Zmj6Lw>.

36. Ferguson, B.W. Speaker and Co-Moderator, UAE Forum on Innovation and Entrepreneurship, Abu Dhabi, United Arab Emirates, Co-Sponsored by Masdar Institute of Science and Technology and Massachusetts Institute of Technology, April 2013.

35. Ferguson, B.W. Panelist, Envision Innovation 2012 Conference, Abu Dhabi, United Arab Emirates, December 2012.

34. Ferguson, B.W. "Innovation Policy." Speaker, Ajman Investment in Technology Conference, Ajman, United Arab Emirates, November 2012.

33. Ferguson, B.W. "Should You Be an Entrepreneur?" Keynote Address, Young Future Energy Leaders, Abu Dhabi, United Arab Emirates, November 2012.

32. Ferguson, B.W. "Crop Biotechnology and Public Health." Session Speaker, Transgenic Crops and Public Health, BIO International Convention, Boston, Massachusetts, June 2012.

31. Ferguson, B.W. "Improved Plant Varieties for Biofuels." Guest Speaker, Masdar Institute of Science and Technology, Abu Dhabi, United Arab Emirates, June 2012.

30. Ferguson, B.W. "Biotechnology for Renewable Biomass Feedstocks." Session Speaker, Markets for Dual-Use Energy Crops, BIO International Convention, Washington, D.C., June 2011.

29. Ferguson, B.W. "Regulatory Innovation: Helping to Meet Food, Energy and Environmental Goals." Session Speaker, Regulatory Challenges in Introducing the Next Generation Bioenergy Feedstocks, World Congress on Industrial Biotechnology and Bioprocessing, Washington, D.C., June 2010.

28. Ferguson, B.W. Session Chairman, Crop Feedstocks for Biofuels, BIO International Convention, Chicago, Illinois, May 2010.

27. Ferguson, B.W. "Transgenic Crop Regulation: On the Critical Path to Meeting National Biofuels Goals." Session Speaker, Issues in Feedstock Procurement, Regulation and Storage, World Congress on Industrial Biotechnology and Bioprocessing, Montreal, Canada, July 2009.

26. Ferguson, B.W. "Low-Cost Sugars from Cellulosic Biomass: Key to Advanced Biofuels." Session Speaker, Plant Science Technologies: Recent Advances That Will Change Our World, BIO International Convention, Atlanta, Georgia, May 2009.

25. Elless, M.P., B.W. Ferguson, C.A. Bray, S. Patch, H. Mielke, and M.J. Blaylock. "Collateral Benefit of Reducing Soil Arsenic from Abatement of Residential Lead." SSSA-GSA Joint Annual Meetings, Houston, Texas, October 2008.

24. Ferguson, B.W. "A Better Transaxle for Science Policy." Center for Study of the Presidency, Beyond Sputnik: A Symposium on the Role of the President, Congress and Science Policy in Addressing Grand National Challenges, Cannon House Office Building, Washington, D.C., November 2008.

23. Ferguson, B.W. "Low-Cost Sugars from Cellulosic Biomass: Key to Advanced Biofuels." Speaker, Cleantech Company & Case Study Showcase, Clean Technology Conference, Houston, Texas, May 2008.

22. Ferguson, B.W. "Bioengineered Crops: Key to Low-Cost Cellulosic Biofuels." Speaker, 21st NREL Industry Growth Forum, Denver, Colorado, October 2008.

#### *Selected Earlier Presentations*

21. Ferguson, B.W. and M.J. Blaylock. "The Case for Corn." Session Speaker, Cellulase Expression in Plants, World Congress on Industrial Biotechnology and Bioprocessing, Chicago, Illinois, April 2008.

20. Ferguson, B.W. "When to Stop Innovating: Ten Lessons from the Edge." Keynote Speaker, Fifth Annual K-State Spotlight on Intellectual Property, Kansas State University Research Foundation, Manhattan, Kansas, April 2008.

19. Ferguson, B.W. "Status and Future of Biofuels." Speaker, BioNxt Conference, Wichita, Kansas, December 2007.

18. Ferguson, B.W. "Energy Corn for Cellulosic Ethanol." Speaker, 20th NREL Industry Growth Forum, Denver, Colorado, November 2007.

17. Ferguson, B.W. "Energy Corn for Cellulosic Ethanol." Session Co-Chairman and Speaker, Energy Crops for Biofuels, BIO International Convention, Boston, Massachusetts, May 2007.

16. Ferguson, B.W. "Status and Future of Biofuels." Speaker, American Association of Petroleum Geologists Annual Convention, Long Beach, California, April 2007.

15. Ferguson, B.W. "Energy Corn for Cellulosic Ethanol." Session Speaker, Feedstocks of the Future, World Congress on Industrial Biotechnology and Bioprocessing, Orlando, Florida, March 2007.

14. Ferguson, B.W. "Energy Corn for Cellulosic Ethanol." Speaker, Cleantech Venture Forum XII, San Francisco, California, February 2007.

13. Ferguson, B.W. "New Energy Crops for Biofuels." Speaker, 19th NREL Industry Growth Forum, Denver, Colorado, November 2006.

12. Ferguson, B.W. "Energy Crops." Speaker, 18th NREL Industry Growth Forum, Denver, Colorado, November 2005.
11. Ferguson, B.W. "Systems Agriculture: Towards a Sustainable Agricultural and Environmental Policy." Module speaker, Bioremediation, Phytosensing and Eco restoration, in Agricultural Biotechnology: Beyond Food and Energy to Health and the Environment, National Agricultural Biotechnology Council, Nashville, Tennessee, June 2005.
10. Ferguson, B.W. "Environmental Biotechnology." Assembly Speaker, Phillips Exeter Academy, Exeter, New Hampshire, April 2005.
9. Ferguson, B.W. "Edenspace Systems Corporation." Speaker, World's Best Technologies, Arlington, Texas, March 2005
8. Ferguson, B.W. "Edenspace Systems Corporation." Speaker, Virginia Biotechnology Summit, Virginia BIO, McLean, Virginia, October 2004.
7. Ferguson, B.W. "Sowing the Seeds: Engaging Farmers in the Brownfield Challenge." Moderator, Panel Session, Brownfields 2004: Gateway to Revitalization, St. Louis, Missouri, September 2004.
6. Ferguson, B.W. "Phytoremediation: Growing a Clean Environment." Instructor, Executive Education Seminar, Harvard University Graduate School of Design, Cambridge, Massachusetts, November 2001.
5. Ferguson, B.W. "A Space-Based View of the Global Village." Naval War College, Newport, Rhode Island, October 1996.
4. Ferguson, B.W. "Orbital Sciences Corporation." Speaker, Robertson Stephens Investor Conference, San Francisco, California, February 1996.
3. Ferguson, B.W. Testimony on Federal science and technology policy before the Committee on Science, Space and Technology, Subcommittee on Science, United States House of Representatives, Washington, D.C., 24 September 1992.
2. Ferguson, B.W. Testimony on Federal space policy before the Committee on Commerce, Science, and Transportation, Subcommittee on Science, Technology, and Space, United States Senate, Washington, D.C., 5 October 1987.
1. Ferguson, B.W. Testimony on Space Shuttle pricing before the Committee on Commerce, Science, and Transportation, Subcommittee on Science, Technology, and Space, United States Senate, Washington, D.C., 27 March 1985..