

# SPEAKER BIOGRAPHIES

## **Bart Gordon**

*Congressman, United States House of Representatives*

Throughout Congressman Bart Gordon's (D-Tennessee) time in Congress, he has been committed to finding bipartisan solutions. As the dean of Tennessee's delegation, Gordon is serving his 12th term in Congress, representing the Sixth District, which includes 15 counties.

In January 2007, Gordon became chairman of the House Science and Technology Committee—the first Tennessee committee chairman in over 30 years. During the first two years, the committee passed 87 bipartisan measures—86 of which were passed unanimously. Gordon co-sponsored landmark legislation, the America COMPETES Act, which the President signed into law in August 2007. The legislation aims to do three things: improve math and science education, increase the America's investment in scientific research, and help our country achieve energy independence.

Gordon is also a senior member of the House Energy and Commerce Committee, where serves on two subcommittees—Health, and Telecommunications and the Internet. One of Gordon's highest priorities is making sure parents have the tools they need to control the content their children can access through TV, by telephone, and on the Internet.

Other efforts focused on today's youth include a youth suicide prevention measure, the Garrett Lee Smith Memorial Act, which established a grant program to help bolster suicide intervention and prevention programs. In addition, his Sports Agent Responsibility and Trust Act became law to prohibit sports agents from bribing or misleading student athletes into signing away their eligibility to play college sports.

Educated in Rutherford County public schools, Gordon graduated with honors from Middle Tennessee State University in 1971. He served in the Army Reserves from 1971-1972 and received an honorable discharge in 1972. Gordon received his law degree from the University of Tennessee.

## **William H. Swanson**

*Chairman and CEO, Raytheon Company*

William H. Swanson is Chairman and CEO of Raytheon Company (NYSE: RTN). Raytheon Company, with 2008 sales of \$23.2 billion, is a technology and innovation leader specializing in defense, homeland security and other government markets throughout the world. With headquarters in Waltham, Mass., Raytheon employs 73,000 people worldwide.

Before adding the responsibilities of chairman to his position in January 2004, Swanson was CEO and president of the company. Prior to that, he was president of the company, responsible for Raytheon's government and defense operations.

Swanson joined Raytheon in 1972 and has held a wide range of leadership positions, including manufacturing manager of the company's largest operation, senior vice president and general manager of the Missile Systems Division, general manager of Raytheon Electronic Systems, president of Electronic Systems, and chairman and chief executive officer of Raytheon Systems Company.

In addition to his professional accomplishments, Swanson is a member of the Congressional Medal of Honor Foundation board, the California Polytechnic State University President's Cabinet, the Cal Poly Foundation board of directors, and the John F. Kennedy Library Foundation board of directors. He is vice chairman of the Business-Higher Education Forum (BHEF) and is co-chair of BHEF's Securing America's Leadership in Science, Technology, Engineering and Mathematics (STEM) Initiative. He is also honorary chair of MATHCOUNTS for 2009 through 2011.

He is a member of the board of governors' executive committee of the Aerospace Industries Association and is a fellow of the American Institute of Aeronautics and Astronautics. He serves as a member of the National Defense Industrial Association (NDIA), the Air Force Association, the Association of the United States Army and the Navy League. He is a member of the CIA Officers Memorial Foundation board of advisors and of the President's National Security Telecommunications Advisory Committee.

A native of California, Swanson graduated magna cum laude from California Polytechnic State University with a bachelor's degree in industrial engineering. His graduate work was performed in business administration at Golden Gate University. He has been awarded an honorary Doctor of Laws degree from Pepperdine University and an honorary Doctor of Science degree from California Polytechnic State University.

He was selected as the Outstanding Industrial Engineering Graduate in 1972, and in 1991 was recognized as the Honored Alumnus from California Polytechnic State University School of Engineering. Swanson has received the Semper Fidelis Award from the Marine Corps Scholarship Foundation and the Aviation Week & Space Technology Laurel Award for "significant contributions" to the field of aeronautics/propulsion. He was also named the "California Manufacturer of the Year" by the California Manufacturing & Technology Association and a fellow of the Royal Aeronautical Society (United Kingdom).

He has received the Navy League Fleet Admiral Chester W. Nimitz Award, the NDIA James Forrestal Industry Leadership Award, the John W. Dixon Award from the Association of the United States Army, a Diversity Best Practices CEO Diversity Leadership Award, the Institute of Industrial Engineers' Captains of Industry Award, the Six Sigma Premier Leader Award from the International Society of Six Sigma Professionals, and a Woodrow Wilson Award for Corporate Citizenship.

### **Brian K. Fitzgerald**

*Executive Director, Business-Higher Education Forum (BHEF)*

Brian Fitzgerald joined BHEF as executive director in January 2005. Focusing on a more action-oriented agenda for BHEF and its members, Fitzgerald has brought to the forefront a commitment to advancing innovative solutions to our nation's education challenges in conjunction with a larger effort to enhance U.S. competitiveness. Fitzgerald has guided the organization to develop an ambitious policy agenda focused on college readiness, access, and success, particularly in high-need disciplines such as science and math. Under Fitzgerald's leadership, both of BHEF's key initiatives—Securing America's Leadership in Science, Technology, Engineering, and Math and the College Readiness Initiative: An Agenda for Educational Success—have grown as signatures of the organization.

Prior to joining BHEF, Fitzgerald served as Staff Director for a federal committee that advised Congress on higher education and student aid policy. He also served as an adjunct associate professor of government at American University. In the private sector, Fitzgerald held senior project management

positions for large scale education research projects for federal agencies. Earlier in his career, he served as Assistant Dean and as a lecturer in education at Bates College in Lewiston, Maine.

Fitzgerald earned his master's degree and doctorate from the Harvard Graduate School of Education, where he also served on the alumni council for four years and as Chairman during the 2006-7 academic year. He received his bachelor's degree from the Massachusetts College of Liberal Arts, which named him Distinguished Alumnus in 2000.

### **Brian H. Wells**

*Senior Principal Engineering Fellow and Chief Systems Engineer, Raytheon Company*

As the Chief Systems Engineer, Wells is responsible for ensuring synergy among Raytheon businesses for key system engineering processes, tools, practices and Raytheon's systems engineering education curriculum. Brian also participates on various review teams from key proposals to program independent assessments. He is focused on achieving one-company, Mission Systems Integration (MSI) behaviors that include continual improvement and providing recognition of engineering expertise that is critical to our success. Wells works to achieve alignment across businesses to provide our customers with best value technical solutions and technologies.

As a Senior Principal Engineering Fellow, he provides system engineering and architecture expertise to all Raytheon businesses. He directs the System Engineering Technical Development Program.

His prior assignments were Technical Director of the Future Naval Capabilities (FNC) business area, the Total Ship System Engineering Lead for the DDG 1000 program and the Chief Engineer for the CVN-21 Warfare System.

Prior to his work on DDG 1000 and CVN-21, Wells was the Manager of the Systems Design Laboratory (SDL). As the SDL Manager, Wells defined the first Raytheon System Engineering Process and the first set of system engineering metrics. He led the effort that performed the first system engineering maturity assessment, which laid the early foundation for achieving CMMI level 5.

Prior to SDL Manager, he was the Manager of System Engineering for the Patriot program. During his tenure on Patriot, Wells managed the activities that upgraded the system and the radar to the Phase 3 configuration, which includes Guidance Enhanced Missile (GEM) and upgraded system communications capabilities and Tactical Ballistic Missile (TBM) defense logic. The result of these activities led directly to the Patriot Advanced Capabilities, 3 (PAC-3) system fielded today.

Wells' early work activities include design, development and testing of missile systems. He was the manager of both the Missile Concept and Design Department and the Simulation Section for the Raytheon Missile Systems Division.

Wells is a member of the International Council on System Engineering (INCOSE), IEEE, and National Defense Industrial Association (NDIA).

Born in 1953 in New Jersey, Wells is a graduate of Bucknell University, having earned a bachelor's degree in electrical engineering in 1975. He is also a graduate of the University of Illinois with a master's degree in electrical engineering in 1976.

Wells has completed numerous Raytheon management and technical development programs, including the Advanced Management Program, the Program Management Program, the Management

Development Program, Lead Engineer Training, Six Sigma Leadership Training and Six Sigma Specialist Training.

Wells has received the Raytheon CEO Award (2009), Raytheon Excellence in Technology Distinguished Award twice (2003 and 2009) the Raytheon Excellence in Business Development Award (2002), and the IDS President's Award (2003). He is the author of a dozen technical papers on missile guidance and control, simulation, systems engineering and modeling of the U.S. education system.

### **Alex Sanchez**

*Senior Principal Systems Engineer, Raytheon Company*

Alex Sanchez, is a Senior Principal Systems Engineer on the Mission Innovation Cross Business Team (MI CBT) for Raytheon Integrated Defense Systems (IDS). IDS Mission Innovation is a cross-business team that brings early concept development, mission optimization and adjacent market entry through modeling and simulation, operations analysis, experimentation and mission solutions. Alex was appointed to this position in March of 2006.

As a member of MI, Alex applies analytic methods to support development of modeling and simulation representing missions and mission performance in real and/or virtual systems which execute as part of virtual or live experiments. He plans, schedules and allocates resources to transform ill-defined concepts into new products for entry into adjacent markets. New products Alex is developing include: explosive detection systems using biological agents, bio-film based products for salmonella and lysteria detection, computer models for public policy analysis. Alex has received the 2008 IDS President's Award and the 2008 Excellence in Engineering and Technology Award, Raytheon's highest technical honor.

Prior to joining IDS Mission Innovation Alex served as Program Manager for Collaborative Solutions. In this position he developed supply chain processes and decision support systems to be honest brokers, leveraged existing technology funding and enabled quick response in support of business capture processes.

Prior to joining Raytheon Alex served as Sourcing Manager for OEM and Thermal Subsystems at Teradyne Corporation, Boston MA from 1999 to 2004. In this position he:

- Negotiated and executed favorable strategic sourcing agreements that met or exceeded cost, quality, and delivery goals.
- Identified, selected, and rationalized international OEM supply base that met current and future internal design requirements and supply chain objectives.

From 1995 to 1999, Alex served as a Manufacturing Engineer Development (MED) Program Fellow at Pratt & Whitney, a division of United Technologies Corporation. Alex was selected for a four year rotational program that develops manufacturing leadership. Alex held five different positions during this rotational program:

- Manufacturing Engineer - Developed complex processes related to overhaul, maintenance, and repair of jet engine parts.
- Department Supervisor- Led team of 45 hourly associates tasked with overhaul and repair of jet engines.

- Reengineering Specialist - Consultant, in continuous improvement office, on lean manufacturing implementation.
- Procurement Analyst – Managed small supply base of jet engine components.
- Manufacturing Engineer - Developed manufacturing processes for gas turbine airfoils.

Alex holds a Bachelor of Science in Mechanical Engineering from Boston University (1995), and a joint Master of Science in Engineering and Management in System Design and Management from the Sloan School of Management and the School of Engineering at the Massachusetts Institute of Technology (1999). Alex is pursuing a second graduate degree in System Dynamics. Alex is fluent in Spanish.

### **Kathryn D. Sullivan**

*Director, Battelle Center for Mathematics & Science Education Policy, The Ohio State University*

Kathy Sullivan was named director of the Battelle Center for Mathematics and Science Education Policy at the John Glenn School of Public Affairs, The Ohio State University, in October 2006. The Battelle Center addresses the nation's global competitiveness by developing policies and practices to increase the number of students in the science, technology, engineering, and mathematics fields.

Sullivan served as science advisor to the Center of Science and Industry (COSI), a dynamic center of hands-on science learning, and as president and CEO of COSI from 1996 to 2006. As president of COSI, Sullivan managed all activities and programs at the center's facility in Columbus. From 1996 to 2003, she also served as president of the COSI Building Development and Financial Resources Corporation. In this capacity, she oversaw the design, construction, and opening of a \$125 million state-of-the-art headquarters.

Prior to joining COSI, Sullivan was the chief scientist of the National Oceanic and Atmospheric Administration (NOAA). Sullivan is also a former astronaut and veteran of three space shuttle missions. She joined the National Aeronautics and Space Administration (NASA) in 1978 as a member of the first space shuttle astronaut class. On her first spaceflight, in October 1984, she became the first American woman to perform a space walk. In 1990, she flew on the Hubble Space Telescope Deployment mission and in 1992 was the Payload Commander for the ATLAS-1 Spacelab mission.

Education has been a major theme of Sullivan's volunteer activities for many years. She led the design of the original Challenger Center program model, which is now in service at over 33 Challenger Learning Centers in the U.S. and Canada. She has also served as an advisor for numerous exhibit and multimedia projects under the auspices of the National Geographic, the Smithsonian Institution, WGBH, and others.

Sullivan has a bachelor of science degree in earth sciences from University of California at Santa Cruz and a Ph.D. in geology from Dalhousie University, Nova Scotia. She received honorary degrees from a number of institutions, including the Stevens Institute of Technology. She was appointed to the National Science Board in 2004 and elected vice chairman in 2006.

**Christopher D. Roe**

*Deputy Director, Business-Higher Education Forum (BHEF)*

Christopher Roe serves as the Deputy Director for the Business-Higher Education Forum. In this role, Roe works closely with members, policymakers, and educators to develop and advance innovative policy and programmatic solutions to our nation's most pressing education challenges. He oversees BHEF's current initiatives, which focus on improving college readiness and strengthening science, technology, engineering and mathematics (STEM) education.

Roe was previously the Managing Director of the Stanford Institute for Higher Education Research and the National Center for Postsecondary Improvement, where he managed \$17 million in Federal and private foundation grants, including the National Center for Postsecondary Improvement, and the Bridge Project, a research project on K-16 transitions funded by the Pew Charitable Trusts.

Roe is the co-founder of Pacific Educational Group, an educational services company providing consulting services to students and their families, professional educators, and educational organizations. He co-founded Foundation for a College Education (FCE), located in East Palo Alto, CA, a non-profit organization assisting talented students of color attain a college education through comprehensive college preparatory and college retention programs. Roe has also served as a Senior Program Officer for the Academy for Educational Development, based in Washington, DC, and as a member of the FCE Board of Directors and Advisory Board. He is a member of the Association for the Study of Higher Education (ASHE) and has served on the editorial board of the ASHE Reader on Governance and Organizational Behavior.

Roe has authored or contributed to a number of reports on issues of state and federal higher education policy and has served on the editorial board of the ASHE Reader on Governance and Organizational Behavior. Roe received his master's in Public Policy from the University of California-Berkeley Goldman School of Public Policy, and his bachelor's degree from the University of Wisconsin, Madison.