

**DR. PAUL H. KNAPPENBERGER JR.**  
**President**  
**The Adler Planetarium**

Paul Knappenberger is President of Adler Planetarium & Astronomy Museum in Chicago, America's first planetarium. Over the past 35 years he has led efforts to develop science and math exhibits and to create educational activities for elementary and secondary schools. Before coming to the Adler, Dr. Knappenberger served for 18 years as Founding Director of the Science Museum of Virginia, in Richmond.

He is a member of numerous science and education associations, including the American Astronomical Society, the International Planetarium Society, and regional planetarium associations. Dr. Knappenberger served on NASA's Space Science Advisory Committee and chaired its Education and Public Outreach Task Force. He currently chairs the Chicago Council for Science and Technology, and has served as President of the Association of Science-Technology Centers and on the Council of the American Association of Museums.

He is the immediate past president of Museums in the Park, a consortium of the ten major museums on Chicago Park District property. He recently chaired the Museum Partners group of the Chicago Systemic Initiative, part of a nationwide effort focusing on systemic improvement of math and science instruction in schools.

He has taught astronomy at Emory University, Georgia State University, University of Richmond, University of Virginia, and Virginia Commonwealth University. His research efforts include work in optical interferometry at the University of Virginia, where he earned his Ph.D. in 1968.



**THE HONORABLE SHANA DALE**  
**NASA Deputy Administrator**

Nominated by President George W. Bush and confirmed by the United States Senate, Shana L. Dale began her duties as deputy administrator of the National Aeronautics and Space Administration on November 14, 2005.

As deputy administrator, Dale serves as the agency's second in command and is responsible to the administrator for providing overall leadership, planning, and policy direction for the agency. Dale represents NASA to the Executive Office of the President, Congress, heads of federal and other appropriate government agencies, international organizations, and external organizations and communities. Dale also oversees the day to day work of NASA's functional offices, such as the Office of the Chief Financial Officer, Office of General Counsel and Strategic Communications.

Before coming to NASA, Dale was deputy director for Homeland and National Security for the Office of Science and Technology Policy (OSTP), Executive Office of the President. She co-chaired the National Science and Technology Council's Committee on Homeland and National Security and supervised work of the subcommittees. Dale previously served as the chief of staff and general counsel at OSTP. In this position, she led and managed the staff officials involved with homeland and national security, legislative affairs, press operations, legal and ethical issues, the federal research & development budget, and internal budget and administration.

Earlier in her career, Dale served as the assistant vice chancellor for federal relations at the University of Texas System, Federal Relations Office in Washington. In addition, Dale has 10-plus years of service on Capitol Hill including her tenure as staff director to the House subcommittee on space and aeronautics. Dale also served on the board of directors for Women in Aerospace for four years.

Prior to serving as staff director, Dale was the Republican assistant legislative director and counsel on the space subcommittee. She was appointed to the Committee on Science, Space and Technology in March 1991, as the Republican counsel on the subcommittee on science. Dale also served on the House Public Works & Transportation Committee.

Before moving to Washington, Dale was employed in private practice in San Diego, California. She received her bachelor's with honors in management information systems from the University of Tulsa and her law degree from California Western School of Law. She is a member of the bars of California and the District of Columbia, and is admitted to practice before the United States Supreme Court.

July 2007



**ROBERT L. SATCHER, JR. (PH.D., M.D.)**  
**NASA Astronaut**  
**NASA Johnson Space Center**

**PERSONAL DATA:** Born September 22, 1965, in Hampton, Virginia.

**EDUCATION:**

- Denmark-Olar High School, Denmark, South Carolina.
- B.S., Chemical Engineering, Massachusetts Institute of Technology, 1986.
- Ph.D., Chemical Engineering, Massachusetts Institute of Technology, 1993.
- M.D., Harvard Medical School, Health Sciences and Technology Division, 1994.
- University of Florida (Gainesville, FL): Orthopaedic Oncology Fellowship, 2000-2001.
- University of California, San Francisco (San Francisco CA): Resident in Orthopaedic Surgery, 1995-2000.
- University of California, San Francisco (San Francisco CA): Internship in General Surgery, 1994-1995.
- University of California, Berkeley and UCSF (Berkeley CA): Postdoctoral Research Fellowship, 1997-1998.
- Massachusetts Institute of Technology (Cambridge MA): Postdoctoral Research, 1993-1994.

**PROFESSIONAL QUALIFICATIONS:** American Board of Orthopaedic Surgery; Illinois Medical License; Medical Board of California: Physicians and Surgeon's Certificate; National Board of Medical Examiners; DEA Authorization; Medical Board of California: Physician Assistant Supervisor; California Fluoroscopy X-Ray Supervisor and Operator; ATLS and CPR Certifications; Professional Association of Divers International (SCUBA).

**RESEARCH GRANTS:**

- Robert Wood Johnson Foundation, Minority Medical Faculty Development Program, 2003
- Avon Foundation, 2003.
- Breast Spore, Robert H. Lurie, Comprehensive Cancer Center of Northwestern University, 2003.
- Spore Grant, Robert H. Lurie, Comprehensive Cancer Center of Northwestern University, 2002.
- Children's Research Foundation, Children's Memorial Hospital, 2002.
- Zimmer Career Development Award, Orthopaedic Research and Education Foundation, 2002.
- Johnson & Johnson Biomedical Research Grant, 1991.
- Medical Scientist Training Program Grant from National Institute of Health, 1988-94.
- AO/ASIF, 1997-1998.
- Orthopaedics Research and Education Foundation Resident Research Grant, 1997-1998.
- Zimmer Investigator Award, 1997-1998.
- UNCF/Merck Fellowship and Research Grant, 1997-1998

**SPECIAL AWARDS & HONORS:**

- "Mechanics of Endothelial Cells", Satcher, R.L., Guest lecturer for Bioengineering Seminars at Univ. of Calif. Berkeley, April 1996.
- First place in Doctoral level student paper competition for "The Distribution of Fluid Forces on Arterial Endothelial Cells", Winter Annual Meeting, American Society of Mechanical Engineers, October 1991, Atlanta, Georgia.
- National Merit Scholar.

- DuPont Engineering Scholarship, 1982-1986.
- Summer Educational Enrichment Program (Medical College of Georgia), 1984.
- Monsanto Award at MIT (3rd year minority student with highest GPA in engineering), 1985.
- Albert G. Hill Award at MIT (for outstanding minority student in engineering), 1986.
- Invited guest lecturer for Biomedical Engineering Seminar at University of California, San Diego, "Effects of physical forces on cultured cells", March 2001.
- Robert Wood Johnson Foundation Fellow; UNCF/Merck Research Fellow.
- Tau Beta Pi Engineering Honor Society.

**PUBLICATIONS:** 15 Peer-reviewed publications. Over 25 presentations at National and International Research Meetings

**ORGANIZATIONS:**

- Doctors United in Medical Missions (DrUMM).
- Board Member; Black Alumni of MIT (BAMIT).
- Vice Chairman, Board; Orthopaedic Research Society; National Comprehensive Cancer Network.
- Board Member; Connective Tissue Oncology Society; American Academy of Orthopaedic Surgeons; American Academy of Cancer Research; Musculoskeletal Tumor Society; National Medical Association (NMA); Society of Black Academic Surgeons; Doctors United in Medical Missions.
- Resident Selection Committee, UCSF Department of Orthopaedic Surgery, 2000
- Hinton-Wright Biomedical Society Steering Committee, Harvard Medical School
- Harvard Medical School Minority Faculty Development Program -submitted proposal leading to establishment of permanent office, 1993.
- Member of Admissions Committee, Health Sciences and Technology (HST), Harvard Medical School/MIT, 1989-92
- Founder and current Director of Sarcoma Conference, The Robert H. Lurie Comprehensive Cancer Center, Feinberg School of Medicine, Northwestern University
- Member of Committee to evaluate disparities in Orthopaedic Health Care Delivery, established by Zimmer, 2002-present

**NON-MEDICAL ACTIVITIES & INTERESTS:**

- Big Brother for Youth at Risk Counseling Program, Department of Corrections, San Francisco, California.
- Coordinator for Strategies and Secrets for Academic Success at MIT.
- Chemical Engineering Course Evaluation Committee, MIT.
- Freshman Buddy, MIT.
- Tutor for Black Student's Union Tutorial Program, MIT.
- National Society of Black Engineers.
- American Institute of Chemical Engineering.
- Supervising Adult for Cub Scout Camp for Boys, Nashville, Tennessee.
- Open Airways Tutor (asthma awareness).
- Proctor for Freshman Dormitory at Harvard University, Cambridge, Massachusetts.
- Lay Episcopal Minister (primary responsibility is visiting sick and shut in members of church) at St. Edmund's Episcopal Church, Chicago, Illinois.
- Board of Directors, Black Alumni of MIT.
- Member of External Committee appointed by Harris Scholarship Fund at MIT to evaluate admissions policies for MIT outreach programs, 2002-present.

**EXPERIENCE:** Most recently an Assistant Professor at The Feinberg School of Medicine, Northwestern University, in the Department of Orthopaedic Surgery. Dr. Satcher also held

an appointment as an Attending Physician in Orthopaedic Surgery at Children's Memorial Hospital in Chicago, Illinois, specializing in Musculoskeletal Oncology; and an Adjunct Appointment in The Biomedical Engineering Department at Northeastern University School of Engineering. Dr. Satcher was also a member of the Robert H. Lurie Comprehensive Cancer Center and the Institute for Bioengineering and Nanotechnology in Advanced Medicine at Northwestern University. Prior to this, he completed clinical fellowships in Musculoskeletal Oncology at the University of Florida; and as Schweitzer Fellow at the Albert Schweitzer Hospital, Lambarene, Gabon. Prior experience in engineering includes internships at E.I. DuPont deNemours & Company, Inc., Wilmington, Delaware, in the Textile Fibers Research Group, and the Polymer Products Division.

**NASA EXPERIENCE:** Selected by NASA in May 2004. In February 2006 he completed Astronaut Candidate Training that included scientific and technical briefings, intensive instruction in Shuttle and International Space Station systems, physiological training, T-38 flight training, and water and wilderness survival training. Completion of this initial training qualifies him for various technical assignments within the Astronaut Office and future flight assignment as a mission specialist.

October 2008





**CARL ERWIN WALZ  
(Colonel, USAF, Ret.)  
NASA Astronaut  
NASA Headquarters**

Carl E. Walz was born on September 6, 1955 in Cleveland, Ohio. Walz is a NASA astronaut who is currently assigned to the Exploration Systems Mission Directorate at NASA Headquarters in Washington, DC as the Director for the Advanced Capabilities Division. He is a member of the American Legion, the Kent State University Alumni Association, the John Carroll University Alumni Association, and the Association of Space Explorers.

**Personal Data**

Carl E. Walz was born in Cleveland, Ohio on September 6, 1955. He graduated from Charles F. Brush High School, Lyndhurst, Ohio in 1973, and Summa Cum Laude with a Bachelor of Science in physics from Kent State University, Ohio in 1977. Walz furthered his education by attending and receiving a Master of Science degree in solid state physics from John Carroll University, Ohio in 1979.

Walz is married to Pamela J. Glady of Lyndhurst, Ohio and has two children. He enjoys piano, vocal music, and sports. Walz is the lead vocal in an all astronaut band, Max-Q, (named after the aeronautical term for the portion of flight when a rocket is placed under maximum aerodynamic pressure).

**Military Service**

While in the 1155<sup>th</sup> Technical Operations Squadron, McClellan Air Force Base, California, from 1979 to 1982, Walz was responsible for radioactive sample analysis from the Atomic Energy Detection System. The following year he studied as a Flight Test Engineer at the USAF Test Pilot School at Edwards Air Force Base, California. January 1984 through June 1987 were also spent at Edwards Air Force Base as Walz served as a Flight Engineer to the F-16 Combined Test Force. While at Edwards, Walz worked on several F-16C airframe avionics and armament development programs. He also served as a Flight Test at Detachment 3, Air Force Flight Test Center from July 1987 to June 1990.

**NASA**

Walz joined NASA's Astronaut Corp in January 1990 and has flown four space flights for a total of 231 days in space. His missions include serving as mission specialist on STS-51 in 1993, the Orbiter flight engineer on STS-65 in 1994, mission specialist on STS-79 in 1996, and as flight engineer on ISS Expedition-Four in 2001-2002.

During the September 12-22, 1993, STS-51 *Discovery* mission, the U.S. Advanced Communications Technology Satellite (ACTS) and the Shuttle Pallet Satellite (SPAS) containing American and German experiments were deployed. A seven-hour space walk (EVA) was also part of Walz's duties as he evaluated tools for the Hubble Space Telescope servicing mission.

The STS-65 *Columbia* mission, from July 8-23, 1994 flew the second International Microgravity Laboratory (IML-2) spacelab module. The crew of seven conducted more than 80 experiments during the flight. They focused on materials and life sciences research in microgravity. During the mission, the crew traveled 6.1 million miles and completed 236 orbits of the Earth.

Walz's third mission was the STS-79 *Atlantis* mission, from September 16-26, 1996. This mission consisted of docking with the Russian MIR station, delivering food, water, supplies, U.S. scientific experiments, and Russian equipment. Crewmembers were also exchanged during this time. The STS-79 set mission a record for docked mass in space.

The Expedition-Four crew, aboard STS-108, launched on December 5, 2001 and docked on December 7, 2001. Walz and fellow astronaut, Dan Bursch, established a space endurance record of 6 ½ months, or 196 days. While on the ISS and 240 miles (384 kilometers) above the Earth, Walz gave the first Elvis impression from outer space! During a space-to-ground question and answer session Walz demonstrated his singing ability to a group of teachers and students on Earth as he sang his version of "*Heartbreak Hotel*."

In his current position at NASA Headquarters, Walz is responsible for a variety of activities, including Human Research, Technology Development, Nuclear Power and Propulsion, and the Lunar Robotic Exploration Programs, which support the Vision for Space Exploration.

### **Medals and Decorations**

Carl Walz has received numerous awards and medals. His honors include the Defense superior Service Medal with one Oak Leaf, the USAF Legion of Merit, the USAF Commendation Medal, and four NASA Space Flight Medals. He has also been inducted into the Ohio Veterans Hall of Fame.

### **Carl Walz Trivia**

- Walz gave the first Elvis impression from outer space.
- Walz, and crewmember, Dan Bursch established a space endurance record of 6 ½ months or 196 days.

**DR. WOODROW WHITLOW JR.**  
**Director**  
**NASA Glenn Research Center**

Dr. Woodrow Whitlow Jr. is Director of the National Aeronautics and Space Administration (NASA) John H. Glenn Research Center at Lewis Field in Cleveland, Ohio. Appointed to this position effective December 25, 2005, he is responsible for planning, organizing and directing the activities required to accomplish the missions assigned to the center.

While managing an annual budget of approximately \$500 million, he oversees a workforce of close to 1,700 civil service employees that is supported by approximately 1,400 contractors. The center has 24 major facilities and over 500 specialized research facilities located at the 350-acre Cleveland site and the 6,400-acre Plum Brook Station site in Sandusky, Ohio.

From September 2003 through December 2005, Dr. Whitlow served as the Deputy Director of the NASA John F. Kennedy Space Center. There his duties included assisting the director in determining and implementing center policy and in managing and implementing the center's missions and agency program responsibilities in the areas of processing, launch, and recovery of launch vehicles; processing of spacecraft; and acquisition of launch services. Prior to this appointment as Deputy Director, he served as the Director of Research and Technology at the Glenn Research Center.

Dr. Whitlow began his professional career in 1979 as a research scientist at the NASA Langley Research Center, Hampton, Virginia. He assumed various positions of increasing responsibility before moving to the Glenn Research Center in 1998. In 1994, he served as Director of the Critical Technologies Division, Office of Aeronautics, at NASA Headquarters.

Dr. Whitlow earned his Bachelor of Science, Master of Science and Doctor of Philosophy degrees in Aeronautics and Astronautics from the Massachusetts Institute of Technology. He has written nearly 40 technical papers, most in the areas of unsteady transonic flow and aeroelasticity.

Dr. Whitlow has received numerous awards, including U.S. Black Engineer of the Year in Government, NASA Exceptional Service Honor Medal, NASA Equal Opportunity Honor Medal, the (British) Institution of Mechanical Engineers William Sweet Smith Prize and the Presidential Rank of Meritorious Executive. The American Institute of Aeronautics and Astronautics named him an associate fellow in 1993.

Dr. Whitlow and his wife have two daughters and two granddaughters.



**DR. CHANG LIU**  
**Professor of Mechanical Engineering**  
**Northwestern University**

Chang Liu received his M.S. and Ph.D. degree from Caltech in 1991 and 1995, respectively. His Ph.D. thesis was titled "Micromachined sensors and actuators for fluid mechanics applications". In January 1996, he joined the Microelectronics Laboratory of the University of Illinois as a postdoctoral researcher. In January 1997, he became an assistant professor with major appointment in the Electrical and Computer Engineering department and minor appointment in the Mechanical and Industrial Engineering Department. In 2003, he was promoted to Associate Professor with tenure. In 2007, he became a full professor with major appointment in Mechanical Engineering and Electrical Engineering department in Northwestern University. Dr. Liu's group, the MedX lab, focuses on two areas of research: biologically inspired sensors, and applications of such sensors in medicine and health-related applications.



**DR. IAN FOSTER**  
**Professor of Computer Science**  
**University of Chicago**

Ian Foster is Director of the Computation Institute at Argonne National Laboratory, where he is also an Argonne Distinguished Fellow, and the University of Chicago, where he is also the Arthur Holly Compton Distinguished Service Professor of Computer Science. His research deals with distributed, parallel, and data-intensive computing technologies and applications. He has published six books and over 300 articles and technical reports on these and related topics.

Dr. Foster is a fellow of the American Association for the Advancement of Science and the British Computer Society. His awards include the British Computer Society's award for technical innovation, the Global Information Infrastructure (GII) Next Generation award, the British Computer Society's Lovelace Medal, R&D Magazine's Innovator of the Year, and DSc Honoris Causa from the University of Canterbury, New Zealand.





**DR. JOHN J. TRACY**  
**Chief Technology Officer**  
**The Boeing Company**  
**Senior Vice President**  
**Engineering, Operations & Technology**

Dr. John J. Tracy is senior vice president of Engineering, Operations & Technology and chief technology officer for The Boeing Company, responsible for defining and implementing corporate strategies for attaining and maintaining technical and functional excellence and enhancing the yield of technology investments across the enterprise.

In addition to serving on the company's Executive Council, he provides strategic direction to several functions and business organizations comprising more than 100,000 Boeing employees. These include the Engineering, Operations, Supplier Management and Quality Assurance functions, along with the Information Technology, Phantom Works, Intellectual Property Management, and Environment, Health and Safety organizations. He also oversees the development and implementation of the enterprise technology investment strategy; sponsors Boeing's Development Process Excellence initiative; and ensures integration of all four of Boeing's enterprise initiatives.

Previously Tracy was vice president of Engineering & Mission Assurance for Boeing Integrated Defense Systems. Tracy had functional management responsibility for the IDS engineering processes, engineering tools, and the 32,000-person engineering team. Prior to this assignment, Tracy was vice president of Structural Technologies, Prototyping, and Quality for the Boeing Phantom Works advanced R&D unit, where he was responsible for advanced materials and processes, structural design and analysis, manufacturing technology, prototype development, and the Phantom Works Quality function.

Tracy has also served as the general manager of Engineering for Boeing Military Aircraft and Missiles in Southern California, the director of the Space and Communications Advanced Engineering organization, the director of Operations Management, and director of Structures Technology for Southern California Phantom Works. He joined McDonnell Douglas in 1981 as a stress analyst at the Huntington Beach facility.

Tracy is a Fellow of the American Society of Mechanical Engineers (ASME) and the past chair of the ASME 6,000-member Aerospace Division. He has also been elected a Fellow of the American Institute of Aeronautics and Astronautics (AIAA) and the Royal Aeronautical Society, and was named the 2006 Hispanic Engineer of the Year by the Hispanic Engineer National Achievement Awards Corporation (HENAAC).

He has served as an editorial board member for the AIAA Journal, the Journal of Thin-Walled Structures, and the Journal of Computer Modeling and Simulation in Engineering. He has authored 26 publications in the areas of composite structural mechanics, launch vehicle structures, smart structures, and aging aircraft.

Tracy received a PhD in Engineering in 1987 from the University of California at Irvine, and an MS and BS in Physics from California State University Los Angeles (1981) and California State University Dominguez Hills (1976), respectively.

Tracy and his wife, Kathy, have two grown children, Scott and Wendy.



**BILL VASS**  
**President and COO, Sun Microsystems Federal, Inc.**  
**Sun Microsystems Inc.**

As President and Chief Operating Officer of Sun Federal, Bill Vass joins Chairman Scott McNealy in continuing to help government organizations solve their unique challenges through sustainable computing and military grade built-in security products like the Trusted Solaris™ OS, identity management software and the latest industry leading Sun Fire™ systems and StorageTek™ solutions.

Previously, Vass served as Chief Information Officer of Sun Microsystems, Inc., where he was responsible for all aspects of Sun's global IT infrastructure and line-of-business application development, support and maintenance, including information service delivery and security. Under Vass's direction, the IT department was dedicated to working with business partners to accelerate Sun's business by aligning Sun's technology deployment strategy with its business strategy.

Vass was previously named by Computer World as a Premier 100 Leader (2004). The list honors those who mentor and motivate with challenges that lead to positive impacts within their IT organization. Premier 100 honorees are recognized as stand out leaders who envision innovative solutions to business challenges, and effectively manage and execute IT strategies. At Sun, Vass has been key to Sun's success in driving the internal Mobility with Security solution and is frequently invited to participate as keynote at industry conferences and other speaking opportunities.

With over 25 years of technical and IT management experience, Vass has held a wide variety of Information Technology roles. Prior to CIO, Vass was the Chief Security Officer for Sun IT and Vice President responsible for Strategic Planning, and the Architectures for Security, Business Systems, Hardware and Software Technology within Sun IT. Previously, he served as the Vice President of Corporate Software Services, responsible for all of Sun's internal corporate user, business, and ERP systems which are used to manage Sun's global business operations. As Vice President of IT Operations, Vass also worked to provide integrated IT support for the company.

Prior to joining Sun, Vass worked in the Office of the Secretary of Defense, Office of the CIO. In this capacity, Vass was director of three large sectors of the Department of Defense's (DoD) IT infrastructure: DoD Software Management- Responsible for all DoD-wide acquisition and development, research and development, and consolidated software development and COTS integration standards for over 6,000 IT systems. CIO Pentagon IT Infrastructure Oversight and Architecture- Responsible for the Pentagon's IT support organizations, managing networks, servers and applications that supply voice, video and data to over 45,000 users. Network Operations for the Office of the Secretary of Defense (OSD)- Responsible for all OSD daily automation support.

Vass was technical lead for the entire DoD Y2K program, and represented DoD to Congress, the White House, and other nations. Prior to joining the Office of the CIO, Vass was CTO and Technical Lead for Army personnel systems worldwide.



**DR. EDWARD "ROCKY" KOLB**  
**Chair, Astronomy and Astrophysics**  
**University of Chicago**

Edward W. Kolb (known to most as Rocky) is the Arthur Holly Compton Distinguished Service Professor of Astronomy & Astrophysics and the College and Chair of the Department of Astronomy & Astrophysics at the University of Chicago, as well as a member of the Enrico Fermi Institute and Kavli Institute for Cosmological Physics. In 1983 he was the founding head of the Theoretical Astrophysics Group and in 2004 the founding Director of the Particle Astrophysics Center at Fermi National Accelerator Laboratory in Batavia, Illinois.

Kolb is a Fellow of the American Academy of Arts and Sciences and a Fellow of the American Physical Society. He was the recipient of the 2003 Oersted Medal of the American Association of Physics Teachers and the 1993 Quantrell Prize for teaching excellence at the University of Chicago. His book for the general public, *Blind Watchers of the Sky*, received the 1996 Emme Award of the American Aeronautical Society.

The field of Rocky's research is the application of elementary-particle physics to the very early Universe. In addition to over 200 scientific papers, he is a co-author of *The Early Universe*, the standard textbook on particle physics and cosmology.

He has travelled the world, if not yet the Universe, giving scientific and public lectures. In addition to occasional lectures at Chicago's Adler Planetarium, Rocky has been a Harlow Shapley Visiting Lecturer with the American Astronomical Society since 1984. In recent years he has been selected by the American Physical Society and the International Conference on High-Energy Physics to present public lectures in conjunction with international physics meetings. Rocky presented a special public lecture in Salonika Greece as part of the cultural celebration of that city, and he was selected to address the president of Pakistan as part of the celebration of the 50th anniversary of the founding of the country. He has been the Oppenheimer lecturer in Los Alamos, and in Athens (Ohio) and Troy (New York) he presented the Graselli Lecture and the Resnick Lecture. He has also presented public lectures at the Royal Society of London, as well as Vienna, Barcelona, Rio de Janeiro, Glasgow, Edinburgh, Valencia, Rome, Toronto, and Vancouver. He is a past Fellow of the World Economic Forum held in Davos, Switzerland.

Rocky has appeared in several television productions, most recently interviewing Stephen Hawking for the Discovery Channel. He can also be seen in the IMAX film *The Cosmic Voyage*, released in the summer of 1996.



**DR. VICKY KALOGERA**  
**Professor of Physics and Astronomy**  
**Northwestern University**

Vicky Kalogera received her B.S. (B.S.) in Physics in 1992 from the University of Thessaloniki in Greece and her Ph.D. in Astronomy in 1997 from the University of Illinois at Urbana-Champaign. In 1997 she joined the Harvard-Smithsonian Center for Astrophysics as a CfA Postdoctoral Fellow and she was also awarded the Clay Postdoctoral Fellowship in 2000. Kalogera was appointed Assistant Professor at Northwestern University in the Department of Physics and Astronomy in 2001 and was promoted to Associate Professor in 2006.

An author of over 100 publications, Kalogera's research interests are in the astrophysics of compact objects and in particular their formation and evolution in multiple stellar systems. She studies the physical properties of X-ray binaries, millisecond radio pulsars and double compact objects in our own and other galaxies and works on the theoretical interpretation of current observations of their electromagnetic emission and their anticipated gravitational radiation.

Among Kalogera's awards and honors are the APS Maria Goeppert-Mayer Award, the David and Lucile Packard Foundation Fellowship in Science and Engineering, the Cottrell Scholar Award, the NSF CAREER Award in Astronomy, and the AAS-AAUW A.J. Cannon Award. She is also grateful for research funding from the NSF (Astronomy and Gravitational Physics), NASA ATP, and Northwestern University. She is an active member of the LIGO Scientific Collaboration, a member of the American Astronomical Society (AAS) and the American Physical Society (APS). She serves on the LIGO Program Advisory Committee and as an elected member of the Executive Committees of the APS Division of Astrophysics, the APS Topical Group on Gravity, and the AAS High Energy Astrophysics Division. She has also served on the Nominating Committee of the APS Astrophysics Division and on the Chandra Users Committee.





**DR. DAVID ARCHER**  
**Professor of Geophysical Sciences**  
**University of Chicago**

David Archer uses computer simulations to understand the balance between carbon dioxide levels in the oceans and in the atmosphere in the past to better predict the impact that changing levels will have on future climate. He is a contributor to Realclimate.org, where commentary written by working climate scientists can be accessed by journalists and the public. Archer also is the author of an undergraduate textbook for non-science majors, titled *Global Warming: Understanding the Forecast*. The book assesses both the natural and technological contributions to long-lived carbon dioxide in the atmosphere. He also is working on a book titled *From Here to Eternity: Global Warming in Geologic Time*.



**DR. DONALD G. HILLEBRAND**  
**Director of Transportation Research**  
**Argonne National Laboratory**

Don Hillebrand is the Director of Argonne's Center for Transportation Research. In this role Don is responsible for leading a team of engineers and physicists who are actively seeking to solve transportation problems related to the nation's reliance on imported energy by developing advanced tools for the analysis of the latest transportation technologies. Argonne Transportation Center is exploring research in synthetic fuels, combustion, life cycle analysis, and advanced materials.

Don came to Argonne from DaimlerChrysler A.G. in Stuttgart, Germany where he worked as the manager of Research and Technology Policy in the DaimlerChrysler research labs. Don worked two years in the White House Office of Science and Technology Policy as a Senior Policy Advisor for Transportation to the Executive Office of the President. Previously Don spent 20 years as a research engineer with Chrysler Motors working on a range of advanced technology programs.

Dr. Hillebrand was elected a member of the Board of Directors of the Society of Automotive Engineers; he is also a Fellow of ESD, The Engineering Society of Detroit. Dr. Hillebrand was named Michigan's Outstanding Young Engineer in 1993 and SAE's Outstanding Younger Engineer in 1999.

Date Last Updated: 02/14/08



**DR. JAMES GARVIN**  
**Chief Scientist**  
**NASA Goddard Space Flight Center**

Dr. James Garvin is the Chief Scientist for NASA's Goddard Space Flight Center and provides strategic advice on the scientific priorities and directions for the Center to its senior management, as well as for the Agency. As a veteran Earth and planetary scientist within NASA in a career that has spanned more than 20 years, Dr. Garvin brings his experience with interdisciplinary science and instrumentation in helping to direct the scientific trajectory of the Center.

Prior to coming to Goddard, Garvin served as the NASA Chief Scientist, advising three separate Administrators on issues ranging from science strategies associated with the Vision for Space Exploration to those involved in rebalancing the NASA science portfolio. In addition, Dr. Garvin served as the chief scientist for Mars exploration from 2000 until 2004 and spearheaded the development of the scientific strategy that led NASA to select such missions as the Mars Exploration Rovers, the Mars Reconnaissance Orbiter, the Phoenix polar lander, and the Mars Science Laboratory. He received two NASA Outstanding Leadership Medals for his work with the science behind the Mars Exploration Program.

Dr. Garvin's scientific expertise spans several elements of Earth and Planetary sciences. He served as one of the founding fathers of the Mars Orbiter Laser Altimeter (MOLA) experiment and led the scientific investigation of impact cratering processes for Mars using MOLA topographic data. Garvin also served as the chief scientist on the two flights of the Shuttle Laser Altimeter (SLA) experiment on STS-72 and STS-85, from which the first measurements of tree heights from space were achieved.

Dr. Garvin is presently leading a team of scientists who are using the Hubble Space Telescope to explore the lunar surface at ultraviolet wavelengths in search of potential resources in support of the Vision for Space Exploration. He has served NASA as a member of Sally Ride's post-Challenger team, and chaired the 1999-2001 NASA Decadal Planning Team (for Exploration), as well as the requirements definition team for the 2008 Lunar Reconnaissance Orbiter (LRO) mission. During his career, he has been a Co-Investigator on the Mars Observer, Mars Global Surveyor, NEAR-Shoemaker, Radarsat and ENVISAT missions. He has published over 60 peer-reviewed scientific articles and other popular articles about space exploration of Mars and the Moon.

Dr. Garvin earned his Ph.D in the Geological Sciences from Brown University in 1984 under the mentorship of Professors J. W. Head and T. A. Mutch. He also received an MS from Stanford University in Computer Sciences and a second MS from Brown in Geology. He graduated with highest honors from Brown University in 1978 and was elected to Phi Beta Kappa. Most recently (2005), he was elected a Trustee of Brown University, and was the 2005 William Rogers award recipient (Brown University) for his contributions to society.

Dr. Garvin has frequently appeared on television in association with space exploration and he was a guest on "Late Night with David Letterman" in January 2004, as well as on the Discovery Channel's "Alien Planet".



**JOHN W. ROWE**  
**Chairman, President and CEO**  
**Exelon Corporation**

John W. Rowe, 63, is the chairman and chief executive officer of Exelon Corporation, a utility holding company headquartered in Chicago. Exelon has the largest market capitalization in the electric utility industry. Its retail affiliates serve 5.4 million customers in Illinois and Pennsylvania, and its generation affiliate operates the largest fleet of nuclear power plants in the nation.

Rowe is the senior chief executive in the utility industry, having served in such positions since 1984. Rowe has led Exelon since its formation in 2000 through the merger of PECO Energy and the parent of Commonwealth Edison. Rowe previously held chief executive officer positions at the New England Electric System and Central Maine Power Company, served as general counsel of Consolidated Rail Corporation, and was a partner in the law firm of Isham, Lincoln and Beale. Rowe serves as chairman of the Nuclear Energy Institute, is a past chairman of the Edison Electric Institute, and is a co-chairman of the National Commission on Energy Policy, an industry and environmental organization dealing with climate change. He is a member of the boards of directors of Sunoco and the Northern Trust Company. In January 2008, Institutional Investor named Rowe the best electric utilities CEO in America.

Rowe is committed to a wide variety of civic and charitable activities, with a focus on education, science, history and diversity. He serves as chairman of Chicago's Commercial Club, the Illinois Institute of Technology and the Chicago History Museum, and is a member of the boards of the Field Museum, the Civil War Underground Railroad Museum of Philadelphia, the Wisconsin Alumni Research Foundation and the Morgridge Institute for Research. Along with his wife, Jeanne, and son, William, he established the Rowe Family Charitable Trust. The Rowes and the Family Trust have founded the Rowe Professorship of Architecture and the Rowe Family Endowed Chair in Sustainable Energy at IIT, the Rowe Professorship of Byzantine History and the Rowe Family Professorship in Greek History at the University of Wisconsin, and the Curator of Reptile Fossils at the Field Museum. The Trust also co-founded the Rowe-Clark Math and Science Academy in Chicago's West Humboldt Park neighborhood. The Rowes serve as patrons of the John Paul II parochial school on Chicago's southwest side.

Rowe has been widely recognized for his civic and professional leadership. Recent awards include the Illinois Holocaust Museum's Humanitarian award (2008), University of Arizona's Executive of the Year Award (2007), the Union League of Philadelphia's Founder's Award for Business Leadership (2005), the American Jewish Committee's Civic Leadership Award (2004), El Valor's Corporate Visionary Award (2003), the Spanish Coalition for Jobs' Corporate Leadership Award (2002), the City Club of Chicago's Citizen of the Year Award (2002), and the Anti-Defamation League's World of Difference Award (2000).

Rowe holds undergraduate and law degrees from the University of Wisconsin, where he was elected to Phi Beta Kappa and the Order of the Coif. He has also received that university's Distinguished Alumni Award. Rowe holds honorary doctorates from the University of Wisconsin, DePaul University, Illinois Institute of Technology, Drexel University, University of Massachusetts-Dartmouth, Bryant College and Thomas College.

Rowe and his wife, Jeanne, reside in Chicago, as does their son, William, an associate with the law firm of Skadden, Arps, Slate, Meagher and Flom.





**DR. BERNICE GARNETT ALSTON**  
**Deputy Assistant Administrator for Planning, Policy and Evaluation**  
**NASA Headquarters**

Dr. Bernice Garnett Alston is currently the Deputy Assistant Administrator for Planning, Policy and Evaluation at NASA Headquarters in Washington, D.C. She was the former Director of Elementary and Secondary Education at NASA Headquarters.

Alston has a Bachelor of Science in Speech Pathology and a Master of Science in Communication Sciences. She earned a second Master of Science in Technology Management from the University of Maryland in May 2007. She also holds an Educational Doctorate in Education Administration and Policy Management from George Washington University.

Alston comes to NASA from the Maryland Local Education Fund in Baltimore. She directed a whole-school reform initiative that involved more than seventy-five schools throughout the state of Maryland.

Alston has been a teacher, principal, Director of the Speech and Hearing Clinic at Howard University, university professor, assistant superintendent, and a key player in systemic school reform. These experiences prepared her to present at national conferences such as the American Astronautical Society, National Staff Development Conference, Public Education Network Conference, Education Trust Conference, Maryland Association for Supervision and Curriculum Development and the Council of Chief State School Officers National Conference on Large Scale Assessments. She has shared her knowledge of urban school reform with numerous school districts throughout the country.

Her tenure at NASA has afforded her the opportunity to administratively support the Educator Astronaut Pathfinder Initiative, the NASA Explorer Schools Pathfinder initiative, NASA Explorer Institutes, higher education, and minority and underrepresented programs. These national initiatives are destined to improve the quality of education in the areas of science, technology, engineering and math throughout our nation.

Alston represents NASA on the Federal-wide School Environment Policy and Strategies committee of the President's Council on Environmental Quality. She also represents NASA on the International Space Education Board composed of Japan, Canada, European Space Agency and NASA. Alston is a board member and Education Chancellor for the African American Federal Executive Association. This organization supports potential and existing members of the federal government's Senior Executive Service. She collaborates with numerous federal agencies, school districts and universities on educational issues.

Alston received the NASA Outstanding Leadership Medal in April 2005. Her distinguished career has allowed her to bond with educators, community supporters and members of the business community. Her passion for education and her love of children has been reflected throughout her career.

She lives in Maryland with her husband John and is the proud mother of two adult sons.



**BILL GROSSER**  
**Science Department Head**  
**Oak Park/River Forest High School**

Mr. Bill Grosser is currently the Chair of the Science Division at Oak Park and River Forest High School and has been an educator for the past 20 years. Prior to OPRF, Bill taught chemistry, physical science and earth science at Glenbard South High School as well as Naperville North High School. At Glenbard South, Mr. Grosser has served as a co-chair of the high school's NCA School Improvement Team, worked with faculty to promote critical thinking through the use of technology, and served as a member of the school's Technology Committee. Prior to his current career, Bill worked for Amoco Chemical Corporation as a microscopist in the area of polymer research and development. Bill is currently an adjunct faculty member at Benedictine University and serves as the coordinator for the Golden Apple Foundation Summer Inquiry Science Workshops. Bill is a National Board Certified teacher, a Golden Apple fellow, and a Radio Shack National Teacher Award Winner. Bill has an undergraduate degree in Geology from Illinois State University and graduate degrees in Secondary Education and Educational Administration from Northern Illinois University.



**KAREN CARNEY**  
**Director of Education**  
**Adler Planetarium**

Karen Carney joined the Adler as Director of Education in March 2006. Ms. Carney has devoted her career to science education in formal and informal settings, and is interested in the learning process as undertaken by students, teachers and families in all settings. Karen has taught science content, educational design, and cognitive science at grade levels ranging from first grade to graduate school, and in settings that vary from outdoor camps to graduate seminars. At Adler, in addition to directing the education department, Karen is co-leading the *Deep Space Adventure* gallery development and Adler's *Public Engagement in Research* initiatives. Prior to working at the Adler, Ms. Carney worked at the Center for Learning, Instruction and Teacher Development at the University of Illinois at Chicago where she was involved in projects concerning issues of training and professional development for teachers.

She taught at Collegiate School in New York City as a middle and lower school science teacher and worked as a museum educator at the Thames Science Center in New London Connecticut. In 1992, Ms. Carney received her bachelor degree in geology from Oberlin College, in Oberlin Ohio. Karen is currently a candidate for a Ph.D. in the Learning Sciences from Northwestern University, where she has also been an adjunct faculty member. As part of her dissertation work at Northwestern University, she designed and tested software and accompanying technology-infused middle school science curricula with Chicago Public School teachers.



**DR. DAVID B. SLAVSKY**  
**Director, Center for Science and Math Education**  
**Loyola University Chicago**

David Slavsky has been the Director of Loyola University Chicago's Center for Science and Math Education (CSME) since its inception in 2002. An associate professor in the departments of Physics and Natural Science, David Slavsky received an Sc.B. in Space Sciences from Brown University, and S.M. in Applied Physics from Harvard, and a Ph.D. in astronomy from the University of Texas at Austin.

His early work focused on observations of planetary atmospheres (especially the outer planets) and on theoretical studies of the astrochemistry of extended stellar envelopes. At Loyola, much of his work has been directed to enhancing science and math education through professional development of teachers, especially through the development of undergraduate and graduate degrees in science and math education.

As Director of CSME, he has established partnerships with school districts and informal science educators, and has directed over a dozen externally funded projects in science and math education, including Loyola's participation in the Gates funded Chicago High School Transformation Project, and also an ESSEA funded project in earth science system education.





**DR. JAMES GOSLING**  
**Vice President and Sun Fellow**  
**Sun Microsystems Inc.**

James Gosling received a BSc in Computer Science from the University of Calgary, Canada in 1977. He received a Ph.D. in Computer Science from Carnegie-Mellon University in 1983. The title of his thesis was "The Algebraic Manipulation of Constraints". He has built satellite data acquisition systems, a multiprocessor version of Unix, several compilers, mail systems and window managers. He has also built a WYSIWYG text editor, a constraint based drawing editor and a text editor called 'Emacs' for Unix systems. At Sun his early activity was as lead engineer of the NeWS window system. He did the original design of the Java programming language and implemented its original compiler and virtual machine. In February 2007, James was named an officer of the Order of Canada.



**CONNIE SHOEMAKE**  
**Vice President of Public Sector,**  
**Americas, Central Region**  
**IBM Corporation**

Connie Shoemake is Vice President of Sales for IBM's 14-state Central Region. Connie is responsible for sales within the public sector, specifically local / state government, K-12 / Higher Education, Healthcare Payor / Providers, and Pharmaceutical clients.

Previously, Connie was the Director of Sales Operations. In this role, Connie was responsible for strategic and tactical enablement for the regional sales force, \$8B in revenue and over 13,000 employees spanning the hardware, software, services business, crossing mid-market, emerging and large accounts.

Connie has held various executive and management positions in sales and technical development throughout her career. She joined IBM as a software sales engineer in 1981.

Connie is a member of numerous professional organizations, including the Chicago Chapter of Women in Technology (WITI), and the National Association of Female Executives (NAFE). She is a board member of the Illinois Technology Association (formerly Chicago Software Association), Chicago downtown American Cancer Society and Chicago-based marketing company AGEOS Enterprises. Connie has been recognized by several Chicago organizations for her leadership and passion for the Technology Industry. In 2003, Connie was recognized by I-Street Magazine as one of the "Top 25 Technology Women in Chicago."

In addition to an active role in IBM's Chicago Women's Networking Group, Connie is dedicated to mentoring several individuals throughout IBM and outside of IBM including the Chicago Executive's Club Leadership program. Connie stays involved in school, community, and church outreach programs.

Connie earned her Master of Science degree in education administration from Northern Illinois University and her Bachelor of Science undergraduate degree in special education from Illinois State University. Connie has attended several business seminars and college programs for executive management.

Connie and her family reside in Palatine, Illinois.



**MICHAEL LACH**  
**Officer of High School Teaching and Learning**  
**Chicago Public Schools**

Michael C. Lach is currently Officer of High School Teaching and Learning, overseeing curriculum and instruction in the 120 high schools comprise the nation's third largest school district. Mr. Lach began teaching high school biology and general science at Alcé Fortier Senior High School in New Orleans in 1990 as a charter member of Teach For America, the national teacher corps. After 3 years in Louisiana, he joined the national office of Teach For America as Director of Program Design, developing a portfolio based alternative-certification system that was adopted by several states. Returning to the science classroom in 1994 in New York City Public Schools, and then back to Chicago in 1995 to Lake View High School, he was named one of Radio Shack's Top 100 Technology Teachers, earned National Board Certification, and was named Illinois Physics Teacher of the Year. He has served as an Albert Einstein Distinguished Educator Fellow, advising Congressman Vernon Ehlers (R-MI) on science, technology and education issues. He was lead curriculum developer for the *Investigations in Environmental Science* curriculum developed at the Center for Learning Technologies in Urban Schools at Northwestern University and published by It's About Time, Inc. As an administrator, he has led the district's efforts in science and mathematics instruction in a variety of roles between 2003 and 2007. He has written extensively about science teaching and learning for publications such as *The Science Teacher*, *The American Biology Teacher*, and *Scientific American*. He earned a bachelor's degree in physics from Carleton College, and master's degrees from Columbia University and Northeastern Illinois University.



**DR. PHILIPPE H. GEUBELLE**  
**Director**  
**Illinois Space Grant Consortium (ISGC)**

Philippe Geubelle is Professor and Associate Head in Aerospace Engineering, University of Illinois at Urbana-Champaign. He has been on the faculty since 1995. As director of NASA's ISGC, he oversees K-12 and higher education STEM programs taking place at nine educational institutions across the State of Illinois.