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REAR ADMIRAL PAUL K. ARTHUR
U.S. NAVAL RESERVE, RETIRED

Rear Admiral (Ret) Paul K. Arthur retired on 3 November 2004 from his civilian position as the Technical Director and Deputy to the Commanding General of White Sands Missile Range (WSMR), New Mexico. He served 48 years at WSMR as a Department of Army civilian employee, and completed 38 years Navy and Naval Reserve duty for an overlapping career of 55 years federal service.

Admiral Arthur enlisted in the Navy in July 1949, served in seven ships as a petty officer in the electronic technician rating, and joined the Naval Reserve following discharge from active duty. After thirteen years enlisted service he was commissioned an engineering duty officer. He held a variety of positions in the Naval Reserve, including commanding five units. His last position, as a flag officer, was Deputy Commander for Mobilization, Naval Sea Systems Command.

Admiral Arthur received a BSEE from Purdue University. In November 1956 he began working at WSMR as an electronic engineer in missile flight safety. Later he served in various test and evaluation positions and assignments including being the Director of the Materiel Test Directorate, Executive Director of the White Sands Test Center, and culminating with his appointment as the Technical Director and Deputy to the Commanding General, the senior civilian position at White Sands Missile Range. Presently he works part time for the Physical Sciences Laboratory of New Mexico State University.

The admiral is married to the former Joy Lim from Manila, Philippines, and they reside in Las Cruces, New Mexico. Joy retired from WSMR in March 2005 after a 47 year career as an electronic engineer doing research in instrumentation, electronic warfare and information warfare. They have two children and two grandchildren. Their son, Greg, is a civil and environmental engineer with EPA in San Francisco, and daughter, Lia, has a PhD in chemical engineering and works for Los Alamos National Laboratory.

HERB BACHNER

Herb Bachner is the Manager of the Space Systems Development Division for the FAA Associate Administrator for Commercial Space Transportation. He is responsible for assessing emerging space launch and reentry technologies and analyzing U. S. commercial space transportation infrastructure. His activities include providing recommendations from FAA/DOT on space policy matters to the the Office of Science and Technology Policy and the National Security Council, developing forecasts for commercial space transportation in the United States and world wide, assuring proper application of the National Environmental Policy Act in the development of environmental reviews for space launch/reentries, and direct support for the development of a Space and Air Traffic Management System (SATMS).

Prior to working in space transportation he was the Manager of the International Assistance Division at the FAA where he managed aviation technical assistance and training programs with 85 countries and worked with the Departments of State and Commerce as well as the Trade and Development Agency in support of U.S. aviation industry activities.

Mr. Bachner has held management and engineering positions in the FAA Air Traffic Control organization both at headquarters and in 3 regions. He has worked on both radar and automation systems for terminals and air route traffic control centers.

He has a Bachelors degree in Electrical Engineering from Polytechnic University of New York and a Masters in Civil Engineering (Transportation) from the University of California at Berkeley.

DR. JOHN-DAVID F. BARTOE

Dr. John-David Bartoe is Research Manager for the International Space Station (ISS) at NASA's Johnson Space Center. He provides oversight for the Program Manager concerning the research capability, research hardware, and research plans of the ISS.

Prior to his present position, Dr. Bartoe was Director of Operations and Utilization in the Space Station Office of NASA Headquarters from 1990 to 1994. He also served as Chief Scientist for the Space Station from 1987 to 1990.

Before coming to NASA Headquarters, he flew on Space Shuttle Mission 51-F (July 29 to August 6, 1985) as a civilian Navy payload specialist. A physicist by training, Dr. Bartoe was co-investigator on two solar physics investigations aboard this mission, designated Spacelab 2, that were designed to study features of the sun's outer layers. In completing this flight, Dr. Bartoe traveled over 2.8 million miles in 126 Earth orbits and logged over 190 hours in space.

From 1966 to 1988, Dr. Bartoe worked as an astrophysicist at the Naval Research Laboratory in Washington, D.C., and published over 60 papers in the field of solar physics observations and instrumentation. He received his B.S. in physics from Lehigh University (1966) and his M.S. and Ph.D. in physics from Georgetown University (1974 and 1976).

Dr. Bartoe is a member of the Association of Space Explorers, and is Chairman of the Space Stations Committee of the International Astronautical Federation. His awards include the NASA Exceptional Achievement Medal, the Navy Distinguished Civilian Service Award, the Flight Achievement Award of the American Astronautical Society, the NASA Space Flight Medal, and the NASA Skylab Achievement Award.

Born November 17, 1944 in Abington, Pennsylvania, he is married to Donna June Bartoe, and has three children.

Steve Bennett

The cult television series “Thunderbirds” and NASA’s Apollo moon landings were what inspired Steve Bennett as a boy. By the time he was 13 he had opened an account with a local chemical supply firm and had built his chemistry set into a model rocket testing laboratory. He would put together small rockets and launch them for friends and relatives. After leaving school in 1980 Steve was employed as a laboratory technician before joining the Army in 1983. He worked his way up to Lance Corporal and was trained as a petroleum operator; his postings included West Germany and the Falkland Islands. After a three year tour of duty he left the Army and went back to work as a lab technician. He met wife Adrienne in 1986 and they were married the following year. Their honeymoon was at Cape Canaveral, Florida. Steve continued to dabble in rocketry and by the early 90’s his rockets had grown from small fireworks into devices measuring several feet in length. His rockets were becoming increasingly complex and also very expensive. In 1992 Steve told Adrienne that he wanted to take his passion for rockets as far as he could, he wanted to build a rocket that would one day carry people into space. Adrienne promised to back him all the way. After winning sponsorship from sugar giants Tate & Lyle Steve built a six metre (21 foot) tall rocket called Starchaser 2 which in 1996 qualified as the largest privately built rocket ever flown in Europe. The project gradually became a team effort due to the sheer size of the rockets. Further sponsorship enabled Steve to give up his day job so that he could now focus on building rockets full time. Soon after this he was invited to relocate to the Physics Department of Salford University where he still lectures in space science.

Steve incorporated Starchaser as a Limited Company in 1998 and moved the rocket manufacturing side of the business to its first factory in January 2001. The Company currently employs 12 permanent members of staff and enjoys the support of a further two dozen part time volunteers.

On 22nd November 2001 Starchaser Industries successfully launched Nova, the first privately built rocket in the world that is capable of carrying people into space. Current R & D projects include the development of a reusable 15 tonne thrust rocket engine, a semi-reusable micro-satellite launch system and a sub-orbital spaceship for space tourism applications.

In 2003 Steve created the Starchaser Rocket Roadshow, an educational initiative that is taking the excitement of space exploration to hundreds of thousands of schoolchildren across the length and breadth of the United Kingdom. Starchaser are currently partnering with the Merseyside Spaceport, a brand new £8 million spaced themed attraction that will play host to over 100,000 visitors per year.

Steve recently became President of Starchaser’s US based Company Starchaser Industries Inc. which has been established in the State of New Mexico.



NAME: Jay Clark Buckey, Jr. M.D

Payload Specialist

PERSONAL DATA:

Born June 6, 1956 in New York, New York. His mother, Jean Buckey, resides in Ft. Myers, Florida. His father, Jay Buckey, Sr., is deceased. Married to the former Sarah Woodroffe Masters of Summit, New Jersey daughter of Parke and Margaret Masters. They have one son and two daughters. Recreational interests include camping, history.

EDUCATION:

Graduated from W. Tresper Clarke High School in Westbury, New York, in 1973. Earned a bachelor of science degree in electrical engineering from Cornell University in 1977, and a doctorate in medicine from Cornell University Medical College in 1981. Interned at New York Hospital-Cornell Medical Center, and completed residency at Dartmouth-Hitchcock Medical Center. NASA Space Biology Fellow at University of Texas (UT) Southwestern Medical Center.

ORGANIZATIONS:

American Society for Gravitational and Space Biology (Executive Board Member 1991-1994), Aerospace Medicine Association, and American College of Physicians.

SPECIAL HONORS:

Meritorious service award from the University of Texas for work on Spacelab Life Sciences-1 (SLS-1) (1991), Outstanding Teacher Award from the Class of 1994 at UT-Southwestern, Distinguished Graduate USAF School of Aerospace Medicine Primary Course (1987), two NASA Certificates of Recognition for hardware developed for SLS-1, NASA Biology Fellowship (1982), Thora Halstead Young Investigator Award (1994), NASA Space Flight Medal (1998).

PUBLICATIONS:

Dr. Buckey has over 20 publications in the areas of space physiology, cardiovascular regulation and echocardiographic techniques.

EXPERIENCE:

Medical internship, New York Hospital-Cornell Medical Center, New York, 1981-1982; NASA Space Biology Fellow, UT-Southwestern, 1982-1984; Research Instructor, Department of Medicine, UT-Southwestern, 1984-1986; Assistant Professor Medicine, UT-Southwestern, 1986-1994; Associate Professor Medicine, UT-Southwestern, 1995; Medicine Resident, Dartmouth-Hitchcock Medical Center, 1995-1996. Associate Professor of Medicine, Dartmouth Medical School, 1996-present; Flight Surgeon, U.S. Air Force Reserve, 457th Tactical Fighter Squadron at Naval Air Station Joint Reserve Base, Fort Worth, TX, 1987-1995. Dr. Buckey took leave from Dartmouth Medical School to fly as a Payload Specialist on the Neurolab mission, STS-90.

NASA EXPERIENCE:

Co-investigator and project manager for the space flight experiment "Cardiovascular Adaptation to Zero-Gravity," Spacelab Life Sciences-1; Alternate Payload Specialist, Spacelab Life Sciences-2. Most recently, Dr. Buckey served as Payload Specialist-1 on STS-90 Neurolab (April 17 to May 3, 1998). During the 16-day Spacelab flight the seven person crew aboard Space Shuttle

Columbia served as both experiment subjects and operators for 26 individual life science experiments focusing on the effects of microgravity on the brain and nervous system. The STS-90 flight orbited the Earth 256 times, covered 6.3 million miles, and logged him over 381 hours in space.

MAY 1998

Tom Burton



Tom Burton- EDUCATION

- PhD in Mechanical Engineering and Applied Mechanics, University of Pennsylvania, 1976
- MS in Mechanical Engineering and Applied Mechanics, University of Pennsylvania, 1972
- BS in Engineering (Major: Aeronautical Engineering), California Institute of Technology, 1969

PROFESSIONAL EXPERIENCE

- 6/05 - present Head, Department of Mechanical Engineering, New Mexico State University, Las Cruces, NM 88003
- 9/04 - 5/05 Professor of Mechanical Engineering, Texas Tech University, Lubbock, TX, 79409-1021
- 7/95 - 8/04 Chair, Department of Mechanical Engineering, Texas Tech University
- 6/97 - present Consultant, Los Alamos National Laboratory, Engineering Sciences and Applications Weapon Response, Los Alamos, NM
- 1994 - 1996 Affiliated Staff Scientist, Battelle Pacific Northwest Laboratory (Applied Physics Section), Richland, WA 99352.
- 8/91 - 10/92 Acting Department Chair, Mechanical and Materials Engineering Department, Washington State University, Pullman, WA 99164-2920.
- 1988 - 1995 Professor, Department of Mechanical and Materials Engineering, Washington State University, Pullman, WA, 99164-2920.
- 1977 - 1988 Associate Professor (1982-88), Assistant Professor (1977-82), Department of Mechanical Engineering, Washington State University, Pullman, WA.
- 1984 - 1985 Visiting Professor, (sabbatical leave), Department of Engineering Science and Mechanics, Virginia Tech, Blacksburg, VA.
- Sum. 1979 Consulting Analyst, Landing Gear Research Group, Boeing Military Airplane Company, Seattle, WA.
- 1969 - 1977 Engineer, General Electric Co., Missile and Space Division, Valley Forge, PA: 1975-77: Intelligence Programs Group, Space Sciences Lab; 1969-75: Flight Dynamics Group, Re Entry and Environmental Systems Division.

Recent journal publications and submissions

- P Meekangvan, AA Barhorst, TD Burton, S Chatterjee, and L Schovanec, Nonlinear Dynamical Model and Response of Avian Cranial Kinesis, *J. Theoretical Biology*, in press.
- Burton, TD, Numerical Calculation of Nonlinear Normal Modes in Structural Systems, *Nonlinear Dynamics*, original submission February, 2005; in revision.
- J Kim and TD Burton, Reduction of Structural Dynamics Models with Nonlinear Damping, *J. Vibration and Control*, original submission June, 2005; in revision.
- TD Burton, Evidence of Nonlinear Resonance in a Randomly Excited Complex Structure, *Nonlinear Dynamics*, submitted September, 2005.

Lowell Catlett- Futurist- NMSU College of Ag



A full-time professor at New Mexico State University, Lowell Catlett is an exciting futurist who brings his understanding of evolving technologies and their implications for how we will live and work to his varied and upbeat presentations. His vast knowledge astounds corporate and association audiences both nationally and internationally. His presentations are thought provoking and highly entertaining.

Dr. Catlett received his doctorate in Economics from Iowa State University, and has twice received the Don C. Roush Award for Excellence in Teaching. He is also a recipient of the prestigious Burlington Foundation Faculty Achievement Award for Outstanding University Teaching. In 1994 he was one of two Western Regional recipients of the National Association of State Universities and Land Grant Colleges "Excellence in College and University Teaching in the Food and Agricultural Sciences Award."

Lowell recently received the College of Agriculture and Home Economics Advisor of the Year as well as Teacher of the Year at New Mexico State University. Earlier this year, he was one of six senior faculty members to be named New Mexico State's first Regents Professors.

He is a consultant to the U.S. Departments of Agriculture, the Interior, Defense and Labor. He has also been a consultant to many Fortune 500 companies.

Education

Ph.D. Iowa State University, Economics

M.S. New Mexico State University, Ag Economics

B.S. West Texas State University, Ag Econ & Ag Business

Fields of Concentration

Marketing Economics

Futures Markets

Production Economics

Areas of Special Interest

Advising/Teaching Undergraduate and Graduate Students

Futures Market Research

Futuristic Planning and Forecasting

Honors/Awards

1990: Rowlett Distinguished Visiting Professor in College of Architecture at Texas A&M University, Delivered Annual Rowlett Lecture

1990: Westhafer Award for Teaching, NMSU

1992: Visiting Professor:

John Deere University, Minneapolis, MN

Texas Tech University, Lubbock, TX

Rogers State College, Claremore, OK

Kansas State University, Manhattan, KS

1994: Excellence in Teaching Award, USDA & National Association of State Universities & Land Grant Colleges, Western Region

Dr. Leroy Chiao



NASA ASTRONAUT (FORMER)

PERSONAL DATA: Born August 28, 1960, Dr. Chiao grew up in Danville, California. He enjoys flying his Grumman Tiger aircraft, as well as downhill skiing. He speaks Mandarin Chinese and Russian. Leroy and Karen Chiao married in 2003.

EDUCATION: Graduated from Monte Vista High School, Danville, California, in 1978; received a Bachelor of Science degree in Chemical Engineering from the University of California, Berkeley, in 1983, and a Master of Science degree and a Doctorate in Chemical Engineering from the University of California, Santa Barbara, in 1985 and 1987.

SPECIAL HONORS: Recipient of four NASA Space Flight Medals (2005, 2000, 1996, 1994), and numerous awards, including the NASA Distinguished Service Medal (2005), two NASA Exceptional Service Awards (2000, 1996), four NASA Individual Achievement Awards (2004, 2003, 2002, 2001), two NASA Group Achievement awards (1997, 1995) and the NASA Going the Extra Mile Award (2004). Recipient of numerous Federation Aeronautique Internationale awards, including the Korolev Diploma (2002), Komarov Diploma (1996) and De La Vault Medal (1994). Recipient of Distinguished Alumni Award from the University of California, Santa Barbara (1995). Recipient of two Phi Kappa Tau awards - the Taylor A. Borradaile National Alumnus of the Year Award (1996) and the Nu Chapter Alumnus of the Year (1991) award. Recipient of the 2005 Science and Technology Asian Pacific American Heritage Association Award. Recipient of the 2003 Excellence Award in Science and Technology, from the US Pan Asian American Chamber of Commerce. Recipient of the 100 Most Influential Asian Americans in the 1990's Award from A-Magazine (2000). Keynote Commencement Speaker for the Departments of Engineering at the University of California at Berkeley, and at Santa Barbara (1996). Invited lecturer on honeycomb material and bonded panels, and cure modeling of aerospace composite materials, at the Beijing Institute of Aeronautical Materials, and at the Changsha Institute of Technology, 5th Department, in the Peoples Republic of China (1988). Invited contributor to the International Encyclopedia of Composite Materials (1989).

EXPERIENCE: Dr. Chiao graduated in 1987 from the University of California at Santa Barbara, and joined the Hexcel Corporation in Dublin, California. He worked for Hexcel until 1989, during which time he was involved in process, manufacturing, and engineering research on advanced aerospace materials. He worked on a joint NASA-JPL/Hexcel project to develop an optically correct, polymer composite precision segment reflector, for future space telescopes. He also worked on cure modeling and finite element analysis. In January of 1989 Dr. Chiao joined the Lawrence Livermore National Laboratory in Livermore, California, where he was involved in processing

research for fabrication of filament-wound and thick-section aerospace composites, where he developed and demonstrated a mechanistic cure model for graphite fiber/epoxy composite material. An instrument-rated pilot, Dr. Chiao has logged over 2600 flight hours in a variety of aircraft.

NASA EXPERIENCE: Selected by NASA in January 1990, Dr. Chiao became an Astronaut in July 1991. He is qualified for flight assignment as a Space Station Commander, Space Station Science Officer and as a Space Shuttle Mission Specialist. His technical assignments to date include: Space Shuttle flight software verification in the Shuttle Avionics Integration Laboratory (SAIL); Crew Equipment, Spacelab, Spacehab and Payloads issues for the Astronaut Office Mission Development Branch; Training and Flight Data File issues; EVA issues for the EVA Branch. Dr. Chiao also served as Chief of the Astronaut Office EVA Branch. A veteran of four space flights, he flew as a Mission Specialist on STS-65 (July 8-23, 1994), STS-72 (January 11-20, 1996) and STS-92 (October 11-24, 2000), and was the Commander and NASA Science Officer on Expedition-10 (October 13 to April 24, 2005). Dr. Chiao has logged a total of 229 days, 7 hours, 38 minutes and 5 seconds in space, including 36 hours and 7 minutes of EVA time in six space walks. In December 2005, Dr. Chiao retired from NASA to pursue private interests.

SPACE FLIGHT EXPERIENCE: STS-65 *Columbia* (July 8-23, 1994) launched from and returned to land at the Kennedy Space Center, Florida, setting a Federation Aeronautique Internationale flight duration record for P2 spacecraft. The STS-65 mission flew the second International Microgravity Laboratory (IML-2). During the 15-day flight the seven-member crew conducted more than 80 experiments focusing on materials and life sciences research in microgravity. The STS-65 mission was accomplished in 236 orbits of the Earth, traveling 6.1 million miles in 353 hours and 55 minutes. On this mission, Dr. Chiao became the 196th NASA Astronaut to fly in space and the 311th human in space.

STS-72 *Endeavour* (January 11-20, 1996) was a 9-day mission during which the crew retrieved the Space Flyer Unit (launched from Japan 10-months earlier), and deployed and retrieved the OAST-Flyer. Dr. Chiao performed two spacewalks designed to demonstrate tools and hardware, and evaluate techniques to be used in the assembly of the International Space Station. In completing this mission, Dr. Chiao logged a total of 214 hours and 41 seconds in space, including 12 hours and 57 minutes EVA time, and traveled 3.7 million miles in 142 orbits of the Earth. During this flight, Dr. Chiao became the first Asian-American and ethnic Chinese to perform a spacewalk.

STS-92 *Discovery* (October 11-24, 2000) was launched from the Kennedy Space Center, Florida and returned to land at Edwards Air Force Base, California. During the 13-day flight, the seven-member crew attached the Z1 Truss and Pressurized Mating Adapter 3 to the International Space Station (ISS) using *Discovery's* robotic arm and performed four space walks to configure these elements. This expansion of the ISS opened the door for future assembly missions and prepared the station for its first resident crew. Dr. Chiao was the EVA/Construction Lead for this mission and totaled 13

hours and 16 minutes of EVA time in two space walks. The STS-92 mission was accomplished in 202 orbits, traveling 5.3 million miles in 12 days, 21 hours, 40 minutes and 25 seconds.

Expedition-10 (October 13, 2004 to April 24, 2005). Dr. Chiao was the Commander and NASA Science Officer of the 10th mission to the International Space Station. Expedition-10 launched from the Baikonur Cosmodrome in Kazakhstan on October 13, 2004 aboard Soyuz TMA-5 and docked with the ISS on October 15, 2004. During his six and a half month stay aboard the station, Dr. Chiao performed numerous tasks including 20 science experiments and two repair and installation space walks, using the Russian "Orlan" space suit, totaling 9 hours, 56 minutes of EVA time on this flight. Expedition-10 concluded its successful mission on April 24, 2005 with a safe landing in Kazakhstan. With this mission, Dr. Chiao became the first Asian-American and ethnic Chinese Mission Commander.

DECEMBER 2005

Jonathan B. Clark M.D., M.P.H.

Jonathan B. Clark is the Space Medicine Liaison, National Space Biomedical Research Institute at Baylor College of Medicine. He received his Bachelor of Science from Texas A&M, Doctor of Medicine from Uniformed Services University, and Masters of Public Health from University of Alabama Birmingham. He is a board certified in Neurology and Aerospace Medicine and is a Fellow of the Aerospace Medical Association. He is President of the Space Medicine Association. He was Manager of the Medical Operations Branch and worked as a Space Shuttle Crew Surgeon in the Mission Control Center (MCC) on shuttle missions STS 92, 96, 99, 102, 105, and 111. He is on the Spacecraft Survival Integrated Investigation Team at the NASA Johnson Space Center. He flew as a DOD space shuttle support flight surgeon for STS 49 and 104. He served 26 years in the U.S. Navy, qualifying as a Naval Flight Officer, Naval Flight Surgeon, Navy Diver, and U.S. Army parachutist and Special Forces Military Freefall parachutist. His interests are in neurologic effects in extreme environments and crew survival in space.

Ken Davidian, Contractor

Ken Davidian is currently working for Centennial Challenges at NASA Headquarters in Washington, D.C. Modeled on past and ongoing prize competitions, Centennial Challenges was established to conduct prize competitions in support of the Vision for Space Exploration and ongoing NASA programs.

Prior to his current position, Mr. Davidian served as Director of Operations for the X PRIZE Foundation. Responsibilities in this position included managing the registration process, team information and relations, and many aspects of flight attempt validation, judging, and event coordination.

In addition to his prize-related work experience, Mr. Davidian has worked for Paragon Space Development Corp. as Program Manager and as Director of Operations consulting to CargoLifter Development, GmbH. Finally, Mr. Davidian spent the first 18 years of his career working for NASA Glenn Research Center in the area of analytical and experimental research on the performance of liquid rocket engines. For a three-year period, NASA Glenn seconded Mr. Davidian to work for the International Space University to serve as Assistant Director of Operations for the 1997-1999 Summer Session Programs.

Mr. Davidian is an alumnus of the International Space University, earned a B.S. degree in Aeronautical and Astronautical Engineering from the Ohio State University and a M.S. degree in Mechanical Engineering (Fluid and Thermal Sciences) from Case Western Reserve University.

Peter Diamandis



HOUSTON, TX (May 25, 2006) - Trustees of the Robert A. and Virginia Heinlein Prize Trust announced today that the first-ever Heinlein Prize will go to Dr. Peter H. Diamandis. The Heinlein Prize was founded to reward individuals for making practical contributions to the commercialization of space. Dr. Diamandis will be honored at a dinner and award ceremony on July 7, 2006 at the St. Regis Hotel in Houston, Texas, where he will receive a cash reward of \$500,000 along with a gold Heinlein Medallion, the Lady Vivamus Sword (as described in Heinlein's book *Glory Road*) and a Laureate's Diploma.

"Dr. Diamandis' accomplishments have started space settlement and commerce," explains Art Dula, Trustee and literary executor of the Heinlein Estate. "He has catalyzed space activities by hundreds of people and organizations all over the Earth who are creating a proud and prosperous future for humanity."

Diamandis is a pioneer and leader in the commercial space arena. In the past 25 years he started more than a dozen leading non-profit and for-profit space organizations. Diamandis is best known as Founder and Chairman of the X PRIZE Foundation, whose \$10 million Ansari X PRIZE sparked the birth of the personal spaceflight industry.

Robert Heinlein published over one hundred novels, short stories, and articles. He won six Hugo awards and has had his work adapted into four movies and five television series. The most prevalent theme underlying all his works is the practical benefit of man's activities in space. The majority of his works were published long before Neil Armstrong first set foot upon the Moon, writing against prevailing opinions of the time that declared such an endeavor as both impractical and impossible.

Many of those who grew up reading his stories are scattered throughout the aerospace industry worldwide and have gone on to make significant progress towards man's expansion into space. Many testify today that they were first inspired by Robert Heinlein and his writings to pursue careers connected to space.

"There is no question that Heinlein's work has inspired and driven me during my career," said Dr. Diamandis. "His novella, *The Man who Sold the Moon*, is my favorite story. In fact, I flew it as personal cargo aboard SpaceShipOne during the winning Ansari X PRIZE flight on October 4th, 2004."

Diamandis' contributions to the commercialization of space began while studying molecular genetics as an undergraduate at MIT. In 1980 he founded

the Students for the Exploration and Development of Space (SEDS), which has since become the largest student-based space organization in the world. He went on to earn a Master's degree in Aerospace Engineering from MIT, concurrently with a Medical Degree from Harvard.

Another major accomplishment was the founding of the International Space University (ISU) in Strasbourg, France. Since 1987 the ISU has provided graduate-level training to over 2,200 future leaders of the emerging global space community from 87 countries. The ISU is the embodiment of Dr. Diamandis' vision of a peaceful, prosperous and boundless future through the study, exploration and development of space for the benefit of all humanity.

"Initially I wanted to be a NASA Astronaut and that dream drove me to collect numerous degrees, private pilot and scuba ratings," said Diamandis. "But along the way I committed myself to traveling to space privately. I believe opening the space frontier is critical for the future of humanity, and making space a viable commercial endeavor is paramount to opening this frontier. My philosophy has been that the best way to predict the future is to create it yourself."

Other notable achievements by Dr. Diamandis:

2004 – Co-founder and Chairman of Rocket Racing League – Combining the excitement of Indy car racing with the challenge of Rocketry, this league will have rocket planes race against each other on a 3D race track in the sky. Races are scheduled to begin next year.

1997 – Co-founder Space Adventures Ltd – Space Adventures is the leading space tourism travel agency. Space Adventures is best known for arranging the flight of Dennis Tito to the International Space Station in 2001, making him the first space tourist.

1996 – Founder, Chairman & CEO of the X PRIZE Foundation - In addition to the successful Ansari X PRIZE, Diamandis is leading the Foundation in its effort to create prizes in several other industries including genomics, water treatment, education, as well as, the automotive industry. **1995** –Co-Founder & President of Angel Technologies Corporation – Angel Technologies Corporation is a commercial communications company developing wireless broadband communications networks.

1993 – Chairman & CEO of Zero Gravity Corporation - The only commercial space company in the world offering FAA-certified weightless flights utilizing a Boeing 727-200 aircraft. More than 200 people have experienced weightlessness since flights began three years ago.

1991 – Founder & Director of Constellation Communications, Inc. (CCI) – CCI is one of five low-Earth orbit applicants designing a low-Earth orbit satellite constellation for voice telephony.

1989 – Founder & CEO of International MicroSpace, Inc. (IMI) – IMI was an entrepreneurial space technologies company focusing on the provision of low-

cost launch services (ORBEX™ launch vehicle program).

1987 – Founder & Managing Director & CEO of International Space University (ISU) – ISU is the world's leading graduate program for multi-national and multi-disciplinary study of space.

1985 – Co-founder of the Space Generation Foundation – A non-profit organization to create a sense of identity in all people born since the advent of the Space Age on October 4, 1957. The Foundation supports numerous educational and research projects.

1980 - Founder of the Students for Exploration and Development of Space (SEDS) – SEDS is currently the world's largest student based pro-space organization.

Sam Dinkin

Dr. Dinkin is CEO of SpaceShot, Inc. which has been offering trips to space for skill game winners for \$3.50/shot since April of this year. His firm has contracted for hundreds of flights on the Rocketplane Kistler XP scheduled to fly in 2008.

Accessible space travel will not be the first new industry started by Dr. Dinkin. He also researched and tested the first Internet B2B marketplace at GE in the summer of 1995.

As an economics expert, Dr. Dinkin wrote the regulations for the Texas Electricity Capacity Auctions. The software he devised is used by the electricity distribution companies and power generating companies serving over twenty million customers in three states. eBay only recently exceeded Dr. Dinkin's total of \$120 billion in cost of goods sold.

As a research staff member at IBM's TJ Watson Research, Dr. Dinkin had 8 patents granted and 28 patents pending from his two years there.

Dr. Dinkin recently plunged into the space field. He became an investor in space start-ups in 2003. He is now serving on the advisory boards of the Colony Fund and the Space Settlement Institute. His recommendation to enhance space property rights was adopted by the Aldridge Commission on national space policy. He writes a frequent column at The Space Review and blogs at Transterrestrial Musings. Dr. Dinkin sponsored an annual Space Journalism Prize for the last three years. He was honored last year as a Space Advocate in the Space Frontier Foundation.

Dr. Dinkin studied economics at Caltech and received his Ph.D. in economics from the University of Arizona after studying under Nobel-Prize winner Vernon Smith. He has published academic papers in economics, law and aeronautics in the most prestigious peer reviewed journals and proceedings of their fields. These include the American Economic Review, The Journal of Law and Politics and Astropolitics.

Sam Donaldson

ABC News Correspondent

Samuel Andrew Donaldson, Jr. was born in El Paso, Texas, and grew up just across the state line in Chamberino, New Mexico. His father died before he was born, leaving his mother and one older brother to run the family's cotton and dairy farm. His mother drove 25 miles every morning and night to take him to school in El Paso.

He became interested in broadcasting at an early age and, after graduating from New Mexico Military Institute, majored in telecommunications at Texas Western. He immediately began working at local stations as a disc jockey, announcer and interviewer. While still in El Paso, he had his first taste of television, working as an announcer in the region's first television station.



After a single year of graduate school at the University of Southern California, Donaldson returned to El Paso. At that time an enthusiastic young Republican, Donaldson worked for the Eisenhower campaign over the summer of 1956, arranging the El Paso stop of Vice President Nixon. This was only the first of many encounters with the nation's political leaders, but Donaldson's politics were to change dramatically over the years to come.

The following autumn, Sam Donaldson reported to Fort Bliss to fulfill his military service as an ROTC commissioned second lieutenant of air defense artillery. Although the defense cutbacks of that year shortened Donaldson's obligation to six months, he volunteered for another two years of active duty.

After receiving his honorable discharge in the spring of 1959, he settled in Dallas and found work as a television announcer at the local CBS affiliate. At 26, he was restless and ambitious and, after only a year in Dallas, left the Southwest for the first time to seek his fortune in New York City. After initial setbacks in New York, he found a job at WTOP, the CBS affiliate in Washington, D.C. He has lived in the Washington area ever since.

He rose through the ranks of WTOP's news department, and had just been promoted to weeknight anchorman in 1967 when he accepted an offer from ABC News. At the time, ABC's news division, chronically underfunded and understaffed, ran a distant third among the three networks. In his first decade at ABC, Donaldson's work attracted little attention, but he persisted, covering the presidential campaigns of Barry Goldwater, Eugene McCarthy, and Hubert Humphrey, as well as the Vietnam War and Watergate.



The turning point came in 1977, when he was assigned to cover the incoming Carter administration as ABC's Chief White House Correspondent. Donaldson's aggressive style of questioning, much assisted by his powerful speaking voice, quickly drew the attention of the public and the immense irritation of the White House staff.

Later that year, the fortunes of ABC's news operation took a precipitous turn for the better with the appointment of Roone Arledge as head of the division. Arledge, who had already revolutionized television sports coverage, brought the same hard-driving approach to the news operation. He expanded coverage, and lured distinguished news personalities from the other networks with unprecedented salary offers.

Donaldson prospered too, and the next change of administrations in Washington offered Donaldson a perfect opportunity to make an impression on the public. Although President Reagan held relatively few press conferences, Donaldson took every opportunity to press difficult questions on the new President. Television audiences became familiar with the sound of Donaldson's voice booming over the rest of the White House press corps, even over the drone of the President's helicopter, as the Chief Executive dashed across the South Lawn to escape his relentless inquisitors.



By 1981, in addition to his White House duties, Donaldson was serving as anchor of *World News Sunday* and taking an occasional turn as moderator of *Issues and Answers*, a long-running Sunday morning political discussion programs. Towards the end of 1981, a new program, *This Week with David Brinkley*, replaced *Issues and Answers* in the Sunday morning line-up. At first, Sam Donaldson only appeared on the program on a rotating basis with other correspondents, but he soon became a permanent member of the panel, questioning guests for the first half of the program and joining in the roundtable discussion with Brinkley and newspaper columnist George Will for the second half.

After the 1988 presidential campaign, Donaldson left the White House post. He continues his duties on *World News Sunday* and, since 1989, as a co-host of *Prime Time Live*. Since David Brinkley's retirement, Donaldson and Cokie Roberts have co-hosted the program, renamed *This Week*. Sam Donaldson lives in McLean, Virginia with his third wife, television reporter Jan Smith. He has four children from two previous marriages.

Raymond F. Duffy, Jr.

Title: Senior Vice President

Credentials: Boston College, Bachelor of Science, Cum Laude, Political Science. New England School of Law, Juris Doctor. Insurance Institute of America, Associate in Risk Management.

Base: New York

Responsibilities: Ray joined Willis Global Aerospace in 1995 concentrating his time on product liability accounts. He joined Willis Inspace in 1996 using his extensive background to focus on space products liability, launch liability and satellite insurance issues including in-orbit liability. Ray works as an account executive and handles accounts such as Loral, Orbital, GeoEye and ATK.

Experience: Ray has over 24 years of underwriting and broking experience in the aviation and space insurance industries.

Ray is a member of a number of industry working groups for launch and related issues. He assisted MDC/Boeing, Lockheed Martin and Orbital Sciences in their negotiations for the Commercial Space Operations Support Agreement (CSOSA) with the U.S. Air Force. Ray has also assisted a number of working groups in obtaining the various extensions of the CSLA Indemnification Provisions. He is an active participant on the Federal Aviation Administration (FAA) Commercial Space Transportation Advisory Committee (COMSTAC) Risk Management Working Group.

In addition Ray has spoken at numerous conferences, seminars and hearings regarding space insurance issues.

Brian Feeney, Da Vinci Aerospace



Brian is Team Leader of the Toronto based Golden Palace.com Space Program. Powered by the da Vinci Project, Canada's first entry in the international X Prize Competition and is also the founding shareholder of its parent company, ORVA Space Corp. Brian founded the da Vinci Project in 1996. He has a strong background in large project management and 3D CAD industrial design. Specific design and analytical skills are in liquid rocket propulsion engines and systems, aero structure layouts and design, RCS, flight profile and trajectory analysis. His own business background is in closed loop life support systems specializing in the development of advanced life support solutions for aerospace, military and commercial applications. Detailed specific knowledge has been developed on the current space suit, its operation - closed loop methodologies, liquid cooling garment as well as regenerative CO2 technology and the study of various soft and hard suit concepts. Brian is also a founding member of the Canadian Space Chamber of Commerce.

George D. French, Jr.

George D. French, Jr. serves as President and Chairman of the Board of Rocketplane Limited, Inc., as well as CEO of Orde Advertising, Inc. and President of Space Explorers, Inc. He is a financial investor in numerous aerospace corporations and is a member of the Board of Directors of several space-related organizations, including the Lunar Research Institute, Inc. and Space Week International.

Several awards have been granted to Mr. French for his knowledge and expertise in both the business and space fields. Among these awards are the 2000 NASA AMES Research Astrobiology Team Group Achievement Award, National Space Society 1997 Entrepreneur of the Year award, 1995 Aerospace States Association Achievement award, Outdoor Advertising Hall of Fame Induction, and 1996 and 2004 Republican National Convention Delegate Selection.

Joe Fuller, President, Futron

Mr. Fuller is the founder and CEO of Futron Corporation, a premier provider of decision-support consulting services to technology enterprises. A visionary leader, Joe has positioned Futron to address the management challenges of the future.

Mr. Fuller began his career at the National Aeronautics and Space Administration (NASA) where his career spanned 20 years as a NASA aerospace systems engineer, project manager, and senior executive. He has experience in the design, development, and operations of human-piloted and robotics spacecraft, including Apollo, Space Shuttle, and TIROS/NOAA programs.

While working at NASA, Mr. Fuller perceived a need for better-integrated and comprehensive management solutions to technology problems. In response, he founded Futron in 1986 and set out on a mission to improve the management of advanced technology. Under Mr. Fuller's leadership, the company has emerged with a reputation for developing innovative decision-support systems solutions.

Mr. Fuller was a Charter Member of the Federal Senior Executive Service and a recipient of the NASA Exceptional Service Medal. He is a former member of the Aeronautics and Space Engineering Board of the National Research Council, and a current member of the University of Maryland Baltimore County Engineering Industrial Advisory Board. Corporate commitments to the community include counseling entrepreneurs and active corporate support for employee-sponsored charities.

A native of Houston, Texas, he has a BS degree in Physics from Texas Southern University and an MBA from the University of Houston. Mr. Fuller resides in Gaithersburg, Md., with his wife, Mardell. They are the proud parents of three adult sons.

Futron Corporation

Futron Corporation is a premier provider of decision-support solutions to technology enterprises. Futron is focused on serving the needs of the aerospace industry including government, commercial, and international organizations.

Futron enhances its clients' ability to make complex decisions and achieve predictable results. Using its innovative analytic methods, models, and in-depth data repository, Futron generates valuable intelligence in a world of risk and uncertainty. As a result, Futron's clients make high quality decisions that assure exceptional performance and success.

Futron's consulting services include market and industry analyses, safety and risk management, and communications and information management. Futron's vision and its commitment to quality, excellence, and value result in a higher performing future for its clients.

Dr. William A. Gaubatz

Dr. Gaubatz, Senior Advisor, X PRIZE Foundation, is a pioneer and leader in program and concept developments that have impacted national programs and policies, leading the way to today's Personal Spaceflight Industry.

He is co-founder and President of SpaceAvailable LLC, a company creating virtual space adventures for science centers, museums and theme parks. At McDonnell Douglas, he originated and managed the development of the Delta Clipper reusable spaceplane concept. He was responsible for the Delta Clipper Experimental programs (DC-X and DC-XA) that proved through flight, that aircraft like operations could be routinely achieved for spaceplanes.

He was an originating founder of Universal Space Lines, Inc. where he was President of SpaceClipper International (SCI) with the long-term goals of establishing an international network of spaceports and connecting Spaceway routes. He contributed to pioneering efforts for investigating the physiological, psychological and system requirements for public space travel and space tourism. He actively participated in early development activities leading to the formation of New Mexico's Spaceport America.

He is, a charter member of the X-Prize Committee, founder and Co-Chair of the annual International Symposium for Personal Spaceflight (ISPS), Chairman of the Space Tourism Society, an Associate Fellow of the American Institute of Aeronautics and Astronautics (AIAA), a member of the International Academy of Astronautics (IAA), a member of the International Institute of Space Law (ISSL) and an Honorary member of the Japanese Rocket Society (JRS). He has authored numerous papers and articles, including the inaugural Ansett Lecture for the SafeSkies Conference, Australia and is an international speaker advocating the development of the new space transportation infrastructure, the Spaceways, to open the space frontier to people.

Tim Gormley

Chief Operating Officer (COO)

Tim Gormley is the Rocket Racing League's Vice President of Operations, providing over 20 years of operations management experience in a technical environment. He has extensive executive level experience both at the Fortune 50 and start-up level. Tim has overseen technical applications development, product delivery, business development, contracting, client management, human resources, and accounting functions. He has engineering teams specializing in facility planning, staffing and scheduling, simulation modeling, automation integration and quality assurance. He has directed the regulatory compliance programs for ten States and more than 3,500 facilities. Tim holds a masters degree in environmental management and policy from University of Denver and a BS in industrial engineering from New Mexico State University.

Jeff Greason

Jeff Greason is a founder of XCOR Aerospace, the Personal Spaceflight Federation, was the team lead at Rotary Rocket for engine development, and previously worked at Intel.

Jeff has been active in lobbying the US Federal Government to encourage support for private spaceflight activities.

Eric Griego

SANTA FE –Eric Griego has been appointed Assistant Secretary for Economic Development for the New Mexico Economic Development Department, it was announced today by Rick Homans, Secretary of the Economic Development Department.

Griego served on the Albuquerque City Council, representing District 3, for the past four years and recently ran for Mayor of Albuquerque.

“Eric Griego is a great addition to my administration,” said Governor Bill Richardson. “I am confident that he will help us create new, good paying jobs across New Mexico that will move our economy forward. He brings the experience, skills and drive that are needed and will greatly benefit the Department and New Mexico.”

Griego has served since January 2003 as chairman of the New Mexico Economic Development Commission and has served on the executive board of the state’s Municipal League for the past four years. In October of this year he was named President of the Municipal League.

“We are extremely excited about welcoming Eric Griego to EDD,” said Secretary Homans. “He is deeply committed to our programs and particularly to community development, which will help our communities increase their capacity to create better jobs and opportunities.”

As a City Councilman, Griego served as Vice President of the Albuquerque City Council from 2003 to 2004 and Chairman of the Finance and Government Operations Committee in 2002. He represented approximately 50,000 residents in the UNM, Downtown, and Westside areas. Griego has been President of Engaging Communications, LLC, a public affairs consulting firm with public and private clients, since 2001.

Before moving back to New Mexico in 1998, Griego spent several years in Washington, D.C. and Dallas, Texas where he worked for the U.S. Department of Labor as an International Economist and was the International Labor Advisor/Communications Director for the Secretariat of the North America Commission for Labor Cooperation. He has a bachelor’s degree in government and journalism from New Mexico State University, and a master’s degree in public administration from the University of Maryland. Griego speaks Spanish fluently.

“I am extremely excited and honored to have the opportunity to work with the Department and the Governor in this capacity,” stated Eric Griego. “I look forward to working with all of our communities throughout New

Mexico to make them vibrant economic centers with sustainable economies and good job opportunities.”

Cathy Harper

Education: Graduate of Oak Grove High School, Oak Grove, Ark.. Certified Marketing Consultant, Brooks Marketing Institute. Graduate, Market Share Development Program, Gannett Newspaper Group. Graduate, Leadership Otero 2005.

Personal Information: 49 years old, mother of 3 daughters and 1 son, grandmother of 9; 21 year resident of Alamogordo, NM, 31 year resident of New Mexico

Work Experience: 33 years in various aspects of media, beginning as a cub reporter and linotype operator at 16. Five years as marketing consultant, reporter and photographer for a weekly newspaper. Seven years as marketing consultant and on air personality at a radio station group, followed by five years as sales manager, on air personality and newscaster. Five years as advertising director of a daily newspaper, which included retail and classified sales, graphics supervision, market share and product development. Developed, presented and implemented multi-media marketing plans for a variety of local, national and international clients.

Published articles in OMNI Magazine, New Mexico Magazine, East Mountain News, Alamogordo Daily News, and BucksWorth Community News.

Currently employed as the Marketing/Public Relations Liaison for the New Mexico Museum of Space History. Columnist for a weekly newspaper in Alamogordo.

Executive Committee Member, New Mexico Space Alliance
Member, Southern New Mexico High Tech Consortium
Member, New Mexico Space Grant Consortium
Member, Community Partnership for the X PRIZE CUP
Member, Education Committee for the X PRIZE CUP
Member, White Sands Film Festival Committee

Former Chairperson, Alamogordo Space Alliance
Former Chairperson, Business Support, Alamogordo Chamber of Commerce

Jim Hayhoe

Education: BSEE and BSCS from California State Polytechnic University, and MBA from Johns Hopkins University

Personal Information: 64 years old, married to Mary A. Hayhoe with 2 grown daughters and 5 grandchildren; resident of Las Cruces, NM full time since retirement in February 2001. Disabled Service Veteran.

Work Experience: 33 years as a Program Manager and Engineering Manager for Westinghouse Electric Corp then Northrop Grumman Corp in Baltimore, Maryland. Programs managed varied from international defense electronics contracts, unmanned aerial vehicle sensor initiatives, r and d in sensor electronics, field test support of various electronic and missile activities. Demonstrated leadership skills up through senior management positions. Technical and business presentations made to heads of state, senior DoD administrators, local governmental agencies, etc. International acquisition and divestiture experience.

Currently a consultant to Soldering Technology International, Inc providing missile testing and flight test support to Northrop Grumman Corp at White Sands Missile Range, and, an economic development consultant for the Village of Hatch, NM assisting in developing NM Spaceport-related business opportunities.

Board Member of the Las Cruces Public Schools Foundation and Charter Member of the NASA Space Grant Foundation. Past member of the Las Cruces chapter of SCORE (an organization of retired executives) providing business skills to small emerging businesses.

Michael Henderson

A native of Ireland Michael, together with his family, emigrated to Canada in 1991. From an early age he was interested in both design and aviation. When his friends were doodling fast cars or boats he was designing huge airports. His interest in aviation led him to join the local Air Training Corp which resulted in awards for aircraft recognition – “there was a time when anything that could fly I could name” Michael’s other claim to fame was his ability to say the phonetic alphabet in seven seconds flat – without a pint of Guinness first!

Michael entered the business world at 17 and followed the familiar ups and downs that entrepreneurs always tread. At 38 he was in a position to retire, so he did, for one day! For the past six years, together with his business partner Sandra Matthews, he has devoted his life and resources to *MOON*. This concept development has evolved from a simple scribble on a Vancouver restaurant napkin to a multibillion dollar resort and real estate project. When complete, somewhere on earth, *MOON* will allow all of earths 6.5 billion people to get a little closer to the Moon itself.

Mike Holguin

Mike Holguin has 23 years in the Space Transportation field, and is currently working as the Advanced Programs Program Manager for Atlas Space Transportation. Mike has 3 degrees, a Bachelors of Science Mechanical Engineering degree from New Mexico State University, a Masters of Business Administration from the University of Phoenix, and a Masters of Telecommunications from the University of Denver. Mike was the Program Manager for Atlas in support of the Orbital Space Plane Program, and most recently manages several advanced program contracts.

Rick Homans, Cabinet Secretary

As cabinet secretary, Rick Homans is the leader of the New Mexico Economic Development

Department. EDD is one of 30 departments and agencies in the executive branch, and Homans was appointed by Governor Richardson in late 2002. Richardson's 2005 state of the state address began by singling out economic development as a top priority, which in turn shines the spotlight on Homans and his work.

Homans' mission is to create an environment where 21st Century businesses can thrive, creating high-wage jobs in fields like aerospace, biotechnology, technology, and film.

Since Homans took the helm, the Economic Development Department has made several landmark accomplishments.

Among them:

New Mexico will host the annual X-Prize Cup public spaceflight exhibition beginning in October 2005.

Maverick aerospace manufacturer Eclipse Aviation chose Albuquerque for its home base.

Icelandic pharmaceutical firm deCODE joined the New Mexico Health Sciences Center and Santa Fe's National Center for Genome Resources in a \$24 million research contract.

The Job Training Incentive Program helped finance 2,737 new jobs statewide.

25 films have been shot in New Mexico since Homans took office, pumping nearly \$2 million into the economy.

Homans established a business-recruitment agency, the New Mexico Economic Development Partnership.

Local communities can now empower themselves to attract new business through the Certified Communities Initiative.

Pat Hynes

Pat Hynes is the director of the New Mexico Space Grant Consortium (NMSGC) located at New Mexico State University in Las Cruces, New Mexico. She works on space related research and education across the State of New Mexico. Space Grant, started in 1989, is funded by Congress and administered by NASA. The role of the Space Grant program nationally is to bring the benefits of space research and education to the communities of the United States. NMSGC programs are statewide; include all 3 research universities in New Mexico, 2 community colleges, museums, federal and state partners. Dr. Hynes is responsible for the strategic planning, research and education support, development, and outreach efforts for the consortium, and programs related to space including efforts to recruit industry partners as part of her work with Spaceport America, the X Prize Cup and International Symposium for Personal Spaceflight.

Pat Hynes is a graduate of New Mexico State University with a Ph.D in Business Administration

Kirby Ikin

Kirby Ikin is the Managing Director of Asia Pacific Aerospace Consultants (APAC), located in Sydney, Australia. APAC offers broad consulting services to the commercial space industry including market analysis, industry analysis, risk management and insurance advice. Recent projects conducted include satellite launch market analysis; a feasibility study for an Australian spaceport; and valuation of an in-orbit communications satellite.

Prior to his role with APAC Kirby worked directly in the space insurance, risk management, and commercial space fields and he has worked in the space industry for the past 18 years. For ten years he worked as a space insurance underwriter at GIO in Australia and in 1998 was appointed Managing Director of the newly created GIO Space. GIO Space was one of the largest space insurance underwriters in the world with annual premium income of over A\$175m (approximately US\$110m at the time).

After GIO Kirby then worked as the Director of Commercial Operations at the Asia-Pacific Space Centre (APSC). At APSC he was responsible for all aspects of its planned commercial operations with a special emphasis on risk management for the venture, which aimed to introduce the Russian Aurora launch vehicle to the commercial launch market. He was directly responsible for managing the insurance requirements for both APSC and its launch customers. He also had responsibility for the preparation of the Information Memorandum to support a planned raising of \$300m in funding.

Kirby has a long and varied involvement within the Australian Space Industry and has held executive positions with various space interest groups. Currently he is the Chairman of the Board of the U.S. based, worldwide National Space Society (NSS), having succeeded Apollo XI astronaut Buzz Aldrin in this position.

Kirby's professional career has seen him working in the areas of corporate advisory services, insurance and risk management, and commercial launch services. As an accounting professional in the late 1980's he instigated the formation of Ernst & Young's Space Industry Services Group in Australia. His work in this area included evaluation of opportunities to commercialise space research and provision of strategic advice to large United States aerospace corporations.

He served as a member of the Australian Government's 'International Space Advisory Group', which advised the Prime Minister's office on space policy and industry development through 2004. He also serves on the Board of Advisors for Space Adventures (USA) and AstroVision Australia, and the Board of Trustees for the Argos Foundation (USA).

Through the National Space Society of Australia, Kirby instigated the establishment of the 'Australian Space Industry Chamber of Commerce' (ASICC), which meets regularly to discuss business, legal and commercial space related issues. He continues to serve as its Chairman as he has done since its foundation in 1992.

Following on from his involvement in the commercial space scene, in 2003 Kirby was instrumental in the formation of the Australian Space Network (ASN) and is serving as one of its founding Executive Committee. The ASN is based at the Australian Centre for Astrobiology and is developing a network amongst the space science and research community in Australia while also assisting in the transfer of space technology to other industry sectors.

In his capacity with the National Space Society, Kirby was Chairman of the 1st to 8th Australian Space Development Conferences, and will Chair the 9th conference in July 2006.

In 2000 Kirby was selected as a member of the World Technology Network and acts as a judge for the Space category of the World Technology Awards.

In 1990 he was appointed to the NSW State Government Task Force on Aerospace, Space, and Defence Industry Development.

Kirby's professional qualifications include a Bachelor of Law degree and Bachelor of Commerce degree (in accounting and financial management) from the University of New South Wales.

In 1999 he was the recipient of the National Space Society of Australia's highest award, the Australian Space Pioneer Award.

Yoshifumi Inatani

Professor, Institute of Space and Astronautical Science (ISAS), Japan
Aerospace Exploration Agency (JAXA)

Doctor of Engineering University of Tokyo

Primary working area;
Hypersonic aero and aerothermodynamics
Reentry vehicles
Future space transportation systems

Currently working with
"Kanko-Maru" studies for general public's space tourism
"Hayabusa" asteroid sample return capsule
RVT (Reusable Vehicle Testing) studies and flight demonstration

Thomas D. Jones, PhD



PERSONAL DATA: Born January 22, 1955, in Baltimore, Maryland. Enjoys baseball, hiking, biking, camping, skiing, and recreational flying. An avid reader and author, his favorite subjects are space aviation and American military history.

EDUCATION: Graduated from Kenwood Senior High School, Essex, Maryland, in 1973; received a bachelor of science degree in basic sciences from the United States Air Force (USAF) Academy in Colorado Springs in 1977, and a doctorate in planetary science from the University of Arizona in Tucson in 1988.

ORGANIZATIONS: Member of the American Astronomical Society (Division for Planetary Sciences), the American Geophysical Union, and the Association of Space Explorers.

SPECIAL HONORS: NASA Space Flight Medal (2001, 1996, 1994). NASA Exceptional Service Award (2000, 1997). NASA Outstanding Leadership Medal (1995). Komarov Diploma, Federation Aéronautique Internationale (1997, 1995). Phi Beta Kappa, University of Arizona (1988). NASA Graduate Student Research Fellow (1987). Air Force Commendation Medal (1983). Distinguished Graduate and Outstanding Graduate in Basic Sciences, USAF Academy (1977). National Merit Scholar (1973). Eagle Scout (1969).

EXPERIENCE: A Distinguished Graduate of the USAF Academy, Dr. Jones served on active duty as an Air Force officer for 6 years. After pilot training in Oklahoma, he flew strategic bombers at Carswell Air Force Base, Texas. As pilot and aircraft commander of a B-52D Stratofortress, he led a combat crew of six, accumulating over 2,000 hours of jet experience before resigning as a captain in 1983.

From 1983 to 1988 he worked toward a Ph.D. at the University of Arizona in Tucson. His research interests included the remote sensing of asteroids, meteorite spectroscopy, and applications of space resources. From 1989 to 1990, he was a program management engineer in Washington, D.C., at the CIA's Office of Development and Engineering. In 1990 he joined Science Applications International Corporation in Washington, D.C. as a senior scientist. Dr. Jones performed advanced program planning for NASA's Solar System Exploration Division, investigating future robotic missions to Mars, asteroids, and the outer solar system.

After a year of training following his selection by NASA in January 1990, Dr. Jones became an astronaut in July 1991. In 1994 he flew as a mission specialist on

successive flights of space shuttle *Endeavour*. First, in April 1994, he ran science operations on the "night shift" during STS-59, the first flight of the Space Radar Laboratory (SRL-1). Then, in October 1994, he was the payload commander on the SRL-2 mission, STS-68. Dr. Jones next flew in late 1996 on *Columbia*. Mission STS-80 successfully deployed and retrieved 2 science satellites, ORFEUS/SPAS and the Wake Shield Facility. While helping set a Shuttle endurance record of nearly 18 days in orbit, Dr. Jones used *Columbia*'s robot arm to release the Wake Shield satellite and later grapple it from orbit. His latest space flight was aboard *Atlantis* on STS-98, in February 2001. Dr. Jones and his crew delivered the U.S. Destiny Laboratory Module to the Space Station, and he helped install the Lab in a series of 3 space walks lasting over 19 hours. The successful addition of Destiny gave the first Expedition Crew the largest space outpost in history and marked the start of onboard scientific research at the ISS. A veteran of four space flights, Dr. Jones has logged over 52 days (1,272 hours) in space, including 3 space walks totaling over 19 hours.

Jay Jordan

Dr. Jay B. Jordan was named interim Dean and Director of the Physical Science Laboratory of New Mexico State University in November 2005 and permanent Dean and Director in July 2006. In addition to managing the research and development activities of the Laboratory, he is responsible for transitioning the Laboratory to a university college specializing in multidisciplinary research and development and integrating it more closely into the University community.

Dr. Jordan graduated from New Mexico State University in 1970 with a BSEE, followed by an MSEE in 1979 and a PhDEE in 1984. He was an international field engineer throughout the 1970's. For several years in the early 1980's he was a production and manufacturing engineer for Hewlett-Packard Corp. In the mid-1980's he joined the Electrical and Computer Engineering faculty at NM State. His research specializations included signals, imagery, measurement and signature analysis. He served in the administrative positions of Academic Department Head and Dean of Engineering. He retired from NM State in August 2002 with 30 years of service to the University.

Upon retirement from the University, he joined Northrop Grumman Corporation as Instrumentation and Operations Manager for the High Energy Laser Systems Test Facility at White Sands Missile Range. He returned to the Physical Science Laboratory in August 2004 as the co-operative education student programs coordinator.

Mike Kelly

Michael Kelly brings to the X PRIZE Foundation 25 years of experience in intercontinental ballistic missile systems and expendable and reusable space launch systems design. He is a technical innovator, experienced system engineer project and program manager and an entrepreneurial corporate founder and CEO.

“His passion is to work in the next-generation of space business, something he started 44 years ago,” said Rod O’Connor, X PRIZE Foundation President. “In this position, Mike will be designing the first real inland spaceport, and working one-on-one with every private space transportation developer.”

Michael Kelly comes to the X PRIZE Foundation from Northrop Grumman/XonTech. Previously he was Founder, Chairman and CEO of Kelly Space & Technology and a staff engineer for TRW, Inc. at the Engineering Mechanics Laboratory where he identified and developed new business opportunities. He also co founded the TRW Launch Services Organization. He began his career at TRW Ballistic Missiles Division, supporting development of the Peacekeeper ICBM.

Mr. Kelly’s accomplishments include the invention of a process to convert organic waste into natural gas; Chairmanship of the Commercial Space Transportation Advisory Committee (COMSTAC) Reusable Launch Vehicles (RLV) Working Group, which advises the FAA on regulatory matters pertaining to space launch,; receipt of a patent for aerial towing technique for space launch, and demonstrating the technique in a series of manned flight tests at NASA’s Dryden Flight Research Center.

Michael Kelly is a graduate of Purdue University with a Bachelor of Science and Masters of Science degrees in Mechanical Engineering.

Charles Lauer

Charles Lauer is a partner in SpaceVision, LLC, a partner in Orbital Properties, LLC, as well as a co-founder of Pioneer Rocketplane. He is also a successful real estate developer and President of Peregrine Properties in Ann Arbor, Michigan. In that capacity, Mr. Lauer has been responsible for negotiating, obtaining regulatory approvals, and arranging financing for more than \$250 million in successful real estate development projects. While earning his income from Earth-based business deals, he has spent more than a decade researching potential business opportunities in space and was an adviser and contributor in this area to the 1994 NASA / aerospace industry Commercial Space Transportation Study. Mr. Lauer has been a consultant to Boeing and NASA on commercial space station development, a participant in the NASA New Space Industries Workshops, and a member of the NASA / KPMG Commercial Space Ventures Advisory Team

Burton H. Lee

Dr. Burton H. Lee, PhD MBA is Technical, Financial and Marketing Advisor to the MIT Mars Gravity Biosatellite Program, a joint initiative with Georgia Tech which aims to launch and orbit animal research populations in order to determine how humans will respond to the reduced gravity environment of Mars. In June 2006, he was appointed a Senior Science and Technology Policy Fellow at the National Academy of Sciences in Washington D.C., where his principal work centered on national IT sector (semiconductors, electronic and magnetic materials, advanced computing and large scale systems) innovation policy for the Computer Science and Telecommunications Board in the Division on Engineering and Physical Sciences.

Prior to joining the Academies, Dr. Lee spent 15 years in strategy consulting, high tech industry, government and venture-backed startups working in corporate development and strategy, business development, technology commercialization, program management and advanced computing systems research. His management and technical experience includes senior positions with leading organizations such as Hewlett Packard Corporation, General Electric Global Research, DaimlerChrysler AG and NASA in the United States, Europe and Japan. Lee's technical expertise spans commercial space systems, alternative energy/hydrogen technologies, nanotechnology and MEMS, and artificial intelligence and robotics, and includes time spent at NASA Kennedy Space Center as a Shuttle Thermal Protection Systems research engineer. He also conducted research at NASA JSC on telerobotic systems for the International Space Station. Prior to entering the space and high tech industries in the early 1990s, Lee served as Senior Economic Advisor to Prime Minister Edward Seaga of Jamaica in Kingston, as well as a science and technology policy, economic development strategy and IT systems advisor to the Government of Mexico and the World Bank. Today, Burton also advises private equity firms on nanotechnology sector venture financing trends.

Dr. Lee's contributions to New Mexico's Spaceport America initiative span a period of over 16 years, from its founding to the present day, and have come at two pivotal times in the spaceport's history. Most recently, he served as principal economist and author of the Futron New Mexico Spaceport Economic Impact Study whose results were presented to the State Legislature in January 2006, and which proved critical in Governor Richardson's efforts to secure \$100 million in state funding from Santa Fe legislators. Lee also assisted New Mexico's EDD with the development of its strategy to secure additional external funding for spaceport construction.

In 1990, while advising NASA Ames on the development of a national reentry systems capability for performing microgravity research, Dr. Lee proposed the original commercial spaceport concept to NMSU/PSL's Len Sugerman and Bernie McCune as a land recovery site for orbital ballistic reentry capsules under development by international space agencies and industry. In addition to crafting the initial spaceport business and strategic plans around this vision for a new southern New Mexico commercial space facility, Burton collaborated with Sen. Pete Domenici to secure the

first \$1.4 million in seed funding for spaceport feasibility, environmental and safety studies through two Congressional NASA and DoD earmarks which Lee authored. This early success led to the creation of the Southwest Regional Spaceport Task Force in 1992 under the leadership of Dr. Ave Tombes, Vice President for Research and Development at NMSU. Between 1994 and 2004, the primary market for the spaceport shifted from land recovery to launch and space tourism, but the headstart in securing early funding for the necessary and time-consuming environmental study process proved critical in New Mexico's winning the X Prize Cup by allowing Governor Richardson and the state Economic Development Department to present a viable and well-developed Spaceport America concept. Manned and unmanned reentry capsule recovery remain a potential secondary market for southern New Mexico with potential customers including NASA, SpaceX, Rocketplane Kistler and other firms.

During much of this period, Lee concurrently served as a senior technical, policy and venture development consultant to NASA Ames and NASA Headquarters with a focus on reentry capsule operations, US-Japan space life sciences cooperation and reentry technology commercialization. In 1992, he co-founded the Aerospace States Association (ASA) together with Ed O'Connor of the Florida Spaceport Authority (retired) and Janice Dunn, currently with the California Space Authority. Lieutenant Governor Casey Luna nominated Lee to serve as New Mexico's first delegate to the ASA, where he also served as the first elected Treasurer and secured the memberships of 17 states.

Dr. Lee holds a PhD in Mechanical & Electrical Engineering from Stanford (2002, dissertation in artificial intelligence), an MBA from Cornell (2004) and an AB in Physics from Brown University. He also attended the International Space University, Strassbourg, France and is a graduate of its inaugural class held at MIT in 1988. His over 9 years of extensive international expertise comprise work and educational experience in Germany, Japan, Switzerland, Spain, the United Kingdom, Czech Republic, Austria, France, Jamaica and Guyana.

Chang Lee

Dr. Chang Lee is an assistant professor of School of Hotel, Restaurant and Tourism Management. Prior to joining the New Mexico State University, he was a faculty of the department of Tourism and Hospitality at the Black Hills State University, Spearfish, SD. He earned his doctorate degree in Hospitality Administration from Oklahoma State University, Education Specialist Degree in Human Services from Central Missouri State University, Master Commercial Aviation in Commercial Aviation Management from Delta State University, and Bachelors degree in Hospitality and Tourism Management from Black Hills State University.

Dr. Lee has over 15 years of management experience in the hospitality and travel industry. He worked in different segments of the hospitality and tourism industry including hotels, restaurants, resorts, travel operations, and clubs in different positions in the Philippines Islands, Marianas Islands, and in the U.S. His research involves the use and impact of diversified workforces in the hospitality and tourism industry. Dr. Lee published in scholarly journals and has made numerous presentations in national and international conferences. Professional affiliations include America Marketing Association, Council on Hotel, Restaurant, and Institutional Education, American Hotel and Lodging Association, National Restaurant Association, and Asia Pacific Tourism Association.

Pablo de Leon, Pablo de Leon Technologies



Pablo de León has almost two decades as an aerospace engineer with experience in space project management and space suit design and Extra-Vehicular Activities (EVA). He is currently a Research Associate in the area of extravehicular activities and space suit design at the Department of Space Studies, University of North Dakota, in Grand Forks. He is also preparing a new course on Human Spaceflight for UND, and working as project manager of a NASA-funded program on planetary space suit design.

Prior to that, he worked with the Space Shuttle as payload manager and general designer of the Project PADE (G-761) science experiments package. These experiments completed all NASA certifications and flew on mission STS-108 to the International Space Station in December 2001. This project carried seven experiments and performed flawlessly during the 12 day space flight.

His prior experience was as chief designer and fabrications manager for several, underwater-simulation, (EVA) analog, pressure suit systems. Pablo has flown, as payload specialist, in the NASA KC-135 aircraft more than 80 weightless parabolas carrying four Zero-G fluid dynamics experiments.

As writer, Pablo has published several books and reports about space, with a special interest in manned space flight. One of these books entitled "108 Minutes in Space" documents the first flight of a human in space. He founded a magazine of space exploration, and is currently editor in chief of the "Latin-American Journal of Space Science and Technology". Pablo has written more than 35 technical papers on space engineering and life support systems presented at international congresses. He belongs to a number of professional aerospace engineering societies. He was selected Regent of the United Societies in Space (USIS) in 2000. During 2000 he was co-founder of the Latin American Space Association (Asociacion Espacial Latinoamericana www.alespacio.org). Pablo was elected as Regional Representative (South America) of the Space Generation Advisory Council in Support of the United Nations Program on Space Applications. He completed training as member of the Community Emergency Response Team (CERT), a training program administered by the Federal Emergency Management Agency (City of Cape Canaveral, Florida). He was recently appointed as reviewer of the Collection of Preferred Space-Related Standards (CPSRS) being organized by the American Institute of Aeronautics and Astronautics (AIAA).

Pablo is one of the original competitors in the X Prize ([link to www.pablodeleon.com](http://www.pablodeleon.com)) and is working actively in the X Prize Cup to be held every year in New Mexico ([link to www.xprize.org](http://www.xprize.org))

Pablo holds sports scuba-diving certification, professional scuba certification and is a private pilot.

He is married to Ana Maria, and they currently live in Grand Forks, ND. During their spare time they enjoy traveling, watching old science fiction movies, designing rockets (link to <http://www.estesrockets.com/cgi-bin/products.cgi?view,408>) and learning more about the next frontier.

Space Technology

DE LEON TECHNOLOGIES LLC TEAMED WITH MANY SPACE ORGANIZATIONS IN THE U.S. AND AROUND THE WORLD TO DESIGN AND BUILD SEVERAL SPACE PAYLOADS AND SMALL SATELLITE SYSTEMS.

MANY OF THEM WERE FLOWN TO SPACE AND PERFORMED FLAWLESSLY. WE ARE NOW IN POSITION TO OFFER OUR EXPERIENCE, COST-EFFECTIVE DEVELOPMENT AND SHORT CONSTRUCTION TIME. WE WORKED WITH NASA (NATIONAL AERONAUTICS AND SPACE ADMINISTRATION) IN SEVERAL PROJECTS.

SOME OF OUR EXPERIMENTS WERE FLOWN IN THE KC-135 SPECIAL AIRPLANE WHICH CAN CREATE A MICROGRAVITY ENVIRONMENT BY FLYING IN PARABOLIC PATHS.
WE ALSO FLEW SEVERAL OF OUR EXPERIMENTS IN THE SPACE SHUTTLE'S FLIGHT STS-108 IN DECEMBER 2001.

Space Hardware Products

STANDARDIZED CANISTER STRUCTURE FOR NASA'S GET AWAY SPECIAL PROJECT AND HITCHHIKER
(G-761 IN THE ENDEAVOUR CARGO BAY ATTACHED TO THE INTERNATIONAL SPACE STATION)
(NASA APPROVED. FLOWN IN STS-108)

STANDARDIZED BATTERY BOX FOR NASA'S GET AWAY SPECIAL PROJECT AND HITCHHIKER
(NASA APPROVED. FLOWN IN STS-108)

CRYSTAL GROWTH EXPERIMENT APPARATUS FOR GAS CANISTERS, SHUTTLE MIDDECK, SPACEHAB OR ISS COMPATIBLE
(AUTOMATIC OR ASTRONAUT OPERATED)
(NASA APPROVED. FLOWN IN STS-108)

WE ALSO WORKED IN SMALLER PAYLOADS AND LOW-COST EDUCATIONAL AND AMATEUR RADIO SATELLITES.

EDUCATIONAL NANOSATELLITE BUS

DEVELOPMENT OF KC-135 EXPERIMENTS FOLLOWING NASA REQUIREMENTS

THANKS TO OUR EXPERIENCE WITH NASA WE NOW OFFER TO EDUCATIONAL INSTITUTIONS AND COMPANIES STANDARDIZED CONTAINERS TO FLY SMALL EXPERIMENTS IN THE SPACE SHUTTLE CARGO BAY, AS WELL AS GUIDANCE AND ADVICE IN THE PROCESS OF CERTIFYING PAYLOADS WITH NASA STANDARDS.

David Livingston- The Space Show

Dr. Livingston is an adjunct professor at the University of North Dakota Graduate School of Space Studies, both on campus and in their distant learning program, specializing in space commerce economics, ethics, and management classes. He has also served as an adjunct professor in the Graduate School of Business at Golden Gate University teaching *Entrepreneurship and Small Business Management* and he has guest lectured at other university programs including Stanford University and Sonoma State University. He earned his BA from the University of Arizona, his MBA in International Business Management from Golden Gate University in San Francisco, and his Doctorate in Business Administration (DBA) also at Golden Gate University. His doctoral dissertation was titled ***Outer Space Commerce: Its History and Prospects.***

Dr. David Livingston is the founder and host of ***The Space Show***[®], the nation's only talk radio show focusing on increasing space commerce, developing space tourism, and facilitating our move to a space-faring economy and culture. ***The Space Show***[®] is broadcast multiple times per week on radio and the internet. Past show archives, listening information, and coming events can be found at www.thespaceshow.com. The Space Show is fully licensed to the newly formed One Giant Leap Foundation (OGLF) which Dr. Livingston started to promote his special type of space education. OGLF is a 501(C)3 public benefit tax exempt foundation.

Livingston has spoken at or had his papers presented at various international space conferences, including Space and Robotics 98, 2000, and 2002, the Mars Society conferences of 1998, 1999, 2000, 2001, and 2002, 2003, and 2005, the Lunar Development Conference 2000 and 2001, the IAA 2000, the Cato Institute in March 2001, and the National Space Society Conference in May 2002, the World Space Conference in Houston in 2000, Space Access 2005, Space Exploration 2005, AIAA in Long Beach in 2005, ATWG NASA Ames in October 2005, the International Conference of Nanotechnology in San Francisco in November 2005, and more. His lecture topics include venture capital for space investments, RLVs and space tourism, effective business, strategic and assumption planning, along with developing the solutions to the barriers to space enterprise, talking to the public about space, tracing the dollars spent on space through the economy, business ethics and corporate responsibility for off-Earth business ventures and New Space Industries, and observations about space development based on his radio show experience. Dr. Livingston has written a Code of Ethics for Off-Earth Commerce. His Code of Ethics for Off-Earth Businesses has been widely published and revised. Dr. Livingston has appeared as a guest with both Art Bell and George Noory on the Coast to Coast radio program discussing space commerce and tourism, Red FM in Cork, Ireland discussing space tourism and providing regular space news updates when called upon, and as a guest on other national talk shows, both on the radio and the internet. Dr. Livingston is also a contributing author to the newly published book, ***Beyond Earth: The Future of Humans In Space.*** His chapter, "Making Space A Popular Goal," documents how to move forward to a space-faring culture based on nearly five years of hosting The Space Show. Dr. Livingston is also part of a new group with Barbara Marx Hubbard, Howard Bloom and others to raise the

consciousness of people regarding the value and importance of space settlement and development for humanity.

When not teaching, occupied, or working with space matters, Livingston is a business consultant, financial advisor, and strategic planner. For more than twenty-five years, he has worked in oil and gas exploration, real estate development sales, the finance and security industry as well as in marketing and direct advertising sales.

Mike Martin

Dr. Michael V. Martin became president of New Mexico State University on July 1, 2004.

Dr. Martin is an academic leader whose career has been dedicated to the land-grant mission of teaching, research and extension service. Before coming to NMSU, he served for six years as vice president for agriculture and natural resources at the University of Florida, leading the university's Institute of Food and Agricultural Sciences with more than 3,000 employees statewide. He was elevated to senior vice president of the University of Florida shortly before being selected as NMSU's president.

Previously, he was vice president for agricultural policy and the dean of the college of agricultural, food and environmental sciences at the University of Minnesota. He began his academic career at Oregon State University as a faculty member in the Department of Agricultural and Resource Economics.

A native of Crosby, Minn., Dr. Martin completed a bachelor's degree in business and economics and a master's degree in economics at Mankato State College (Minnesota State University) in Minnesota. He received his Ph.D. in applied economics from the University of Minnesota in 1977. His areas of specialization are marketing, prices, international trade, public policy, transportation and business logistics.

Dr. Martin and his wife Jan have two children, both adopted from Korea. Amanda, a graduate of the University of Wisconsin-Eau Claire, is a graphic artist in Saint Paul, Minn. Sam, with a bachelor's degree from the University of Minnesota, is a graduate student at Sarah Lawrence College in New York.

Mayor Bill Mattiace- Las Cruces

William Michael 'Bill' Mattiace was born in South Ozone Park in New York in 1947. His family moved around the metropolitan New York area from Forest Hills and Rego Park to Manhattan before moving to Las Cruces to attend New Mexico State University in 1969. He studied Elementary Education at NMSU before attending the General Motors School of Finance. He worked for Wallace Chevrolet Autoworld for nine years before joining his wife at Adventure Travel.

He was elected mayor twice in 2003 campaigning as an advocate for individual citizens and small business and has carried that tradition into his leadership as Mayor.

He has focused on public safety and smart growth as the cornerstones for a robust economic expansion in the Mesilla Valley. He has championed open space preservation, cultural diversity, recruitment of higher wage job growth and the birth of a new space industry as the keys to Las Cruces' future.

Bill and Wanda have three children Michelle, William and Lauren. They have two grandchildren, Lila and Jack.

EXPERIENCE:

- 1972, Director of Vocational Education School
- 1976, Permanent substitute teacher at Mayfield High School
- 1977, Assistant Tennis coach at NMSU
- 1977 – 1986, Sales and Management in local automobile business, Wallace Chevrolet and Sisbarro Dealerships, Inc.
- 1986 – Present, Vice President of Adventure Travel
- 1999 to 2003, 1st Term City Councilman District 2
- 2003 – Present, Mayor, City of Las Cruces/Chair of Las Cruces City Council

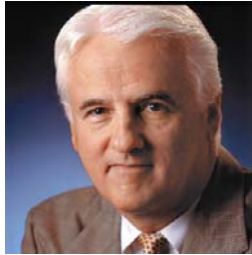
MEMBERSHIPS:

- Former Trustee of Memorial Medical Center
- Chairman of Children's Miracle Council, Southern NM
- Crimson Society member of the NMSU Foundation
- Member of the Southern New Mexico Community Foundation
- Patron of the NMSU Symphony
- Member of the Las Cruces Community Concert
- Member of the Greater Las Cruces Chamber of Commerce
- Member of the Las Cruces Hispano Chamber of Commerce
- Former Board of Directors of NMSU Aggie Sports Association
- Member of the University Corridor Advisory Board
- Member Rio Grande Natural Gas Association Board of Directors
- Chairman of the South Central Solid Waste Authority
- Chairman of Las Cruces Water Committee

Andrew Nunez

Trustee Andrew "Andy" Nunez was appointed to the Board of Trustees in 2001 and won re-election in 2002 and 2006. Trustee Nunez also serves as a New Mexico State Representative, District 36. Andy's career was spent in agriculture, holding B.S. and M.S. degrees in Animal Science. Andy spent 10 years overseas working in agriculture. He retired from New Mexico State University in 2001. Andy is a Korean War veteran of the U.S.M.C., he is married with 4 daughters & 16 grandchildren. Andy is the liaison for Streets, Planning and Zoning, Community Center, Rio Grande Natural Gas Board and serves on many local, state and national boards.

John O'Connor, DMJM Aviation



John O'Connor is the Chairman and CEO of DMJM Aviation, one of the world's largest aviation consulting organizations. Part of the AECOM group of companies, DMJM Aviation provides a full range of professional services, including planning, design, environmental analysis, airline facilities support and program/construction management. Under his stewardship, the company has grown to service clients in all parts of the United States and abroad. In the program management field alone, DMJM Aviation has had management responsibility for more than \$40 billion in airport capital development. Representative airport client programs include, BOS, CLT, CVG, DCA, DEN, IAD, SAN, LAX, LAS, MIA, ORD, PHL, PHX, RSW, SFO, SLC and YEG. The firm's commitment to quality and excellence has long been recognized. Its R/W 8-26 airfield improvement project at Philadelphia International was the recent recipient of the highly prestigious American Consulting Engineers Council's "Honor Award" presented in Washington, D.C. The Construction Management Association of America named the company's R/W 16R-34L project, at Denver International Airport, as its 2004 Public Project with constructed value greater than \$100M – "Project of the Year". The RW 12/30 reconstruction project at Long Beach International was similarly honored in 2006. The firm's CM assignment for the new R/W at ATL and its PM/Design project at RSW for the Ft. Myers new Midfield Terminal have been hailed as "model projects" throughout the industry. The organization was recently selected by the State of New Mexico to lead the Programming initiatives at its Space Port America.

For more than two decades, Mr. O'Connor has been one of this industry's leading voices. He has been active as an Associate Member of ACI, a Corporate Member of AAEE and has served as a member of the Board of Governors of the Airports Consultant's Council. In 1997, Mr. O'Connor served as a Commissioner on the National Civil Aviation Review Commission- now known as the "Minetta Commission" in deference to its Chair, Former U.S. Secretary of Transportation Norman Y. Mineta.

A published author and popular lecturer, Mr. O'Connor holds both BS and MBA degrees. He is based in Tampa, Florida.

Jonathan Oliver

Mr. Oliver, Project Manager at Modern Technology Solutions Inc (MTSI), is a versatile aerospace systems engineer and technical manager with experience on multiple NASA, DoD, and commercial programs. His diverse career includes developing advanced space transportation systems, spacecraft, ballistic missile defense systems, and advanced concepts. Programs include the NASA Space Launch Initiative, Kinetic Energy Interceptor, Ground-based Midcourse Defense, Multiple Kill Vehicle program, ORBCOMM satellite constellation, MUBLCOM satellite program, HyFly standoff missile, and Walrus heavy lift cargo vehicle.

Mr. Oliver is a senior member of the AIAA and is the current Chairman of the AIAA Space Transportation Technical Committee. He holds a bachelors degree in Aeronautical Engineering from Rensselaer Polytechnic Institute and a Masters degree in Aerospace Engineering from Embry-Riddle Aeronautical University.

Misuzu Onuki

Ms. Misuzu Onuki has been researching, creating and performing the popularization of Space using various aspects of space such as space tourism, space commercialization, space architecture, space education, space psychology, space casual wear, space food, space healing, space art and so on. She has been managing projects and doing space business development in these fields as well. She worked for Space Systems Division of Shimizu Corporation, a general construction company in Japan, and managed one of the first space tourism market studies in 1993. She founded the Japan Women's Space Forum in 2001. Ms. Onuki is now an independent aerospace business consultant and CEO of Zspace LLC, as well as an associate researcher of Japan Women's University since 2003. Her professional affiliations include such organizations as the Space Frontier Foundation, (Advocate & Asia Liaison) since 2005. She is also a Board member of Spaceweek International Association (SIA).

Nick Pelster



Nick Pelster is the Technical Director for the California Space Authority, Inc. (CSA), a non-profit corporation founded to promote and advocate the continuing development and growth of California's Space Enterprise community.

Nick has 19 years of experience in the California aerospace community. Nick began his career as a test engineer for aerospace weapons system development efforts. This experience in planning, conducting, analyzing, and reporting on component and subsystem level testing led to expansion of his career into systems engineering and integration. As a systems engineer, Nick was responsible for requirements development and traceability, technology integration, and configuration/data/risk management.

After several years in systems/test engineering, Nick led a team of professionals responsible for program planning and capability analysis to support the Air Force. In this role, he worked with defense agencies (Air Force, Army, and Navy), civil agencies, and a variety of aerospace contractors to secure new space and missile projects and develop new launch range capabilities.

Nick went on to become the director of an organization responsible for engineering sustainment and modernization projects for the Air Force space and missile launch Range instrumentation, network, and control and display systems (Eastern and Western Range). In this capacity, he managed an engineering workforce of over 200, over 55 projects, and approximately \$160M budget.

Nick graduated from California State Polytechnic University, Pomona, with a Bachelor of Science degree in aerospace engineering. Nick is a Value Based Six Sigma Green Belt and is a senior member of the American Institute of Aeronautics and Astronautics.

Tim Pickens, Orion Propulsion

The President of Orion Propulsion, Tim Pickens, has over a decade of experience in the aerospace industry. He has worked for several small aerospace start-ups before launching his own company. This experience includes Scaled Composites, LLC, where he was the lead propulsion developer for Burt Rutan on SpaceShipOne. Tim has extensive liquid engine experience and has worked as a Senior Propellant Specialist. His propellant expertise includes: nitrous oxide, methane, propane, kerosene, and various hydrocarbon fuels. In addition, he has worked multiple engine programs ranging from 100lbf to 50,000lbf thrust. Mr. Pickens co-designed a 50,000lbf thrust regeneratively-cooled rocket motor for NASA on the Fastrac Block II engine program. He also was a Project Engineer leading the design and construction of a prototype Space Shuttle Main Engine combustion chamber utilizing advanced aerospace materials and manufacturing processes. He has designed, constructed, and tested multiple liquid, hybrid and solid rocket motors. Mr. Pickens has published and co-authored numerous articles in various publications, such as Southeastern Space Supporter, AIAA magazine, Popular Mechanics, and HPR.

Dumitru Popescu, ARCA

Dumitru Popescu – President of ARCA

Dumitru Popescu graduated the Theology University in Sibiu in 2001 and the Aerospace Engineering in Bucharest-2002. Together with a group of colleagues, created ARCA in 1999. Since 2003 is the President of this organisation. He was the chef designer of the successful Demonstrator 2B rocket created in the days of the X Prize Competition. He is also the creator of the composite materials, reusable, monopropellant rocket engine, that was tested in flight on September 9, 2004, from the Cape Midia Air Force Launch Site. After the end of the Demonstrator program, he was named the chef designer of the ORIZONT and then STABILO I ships. ORIZONT is under development at ARCA and STABILO I entered in the final phase of construction and flight tests were started in July 2006. He published the “Apollo-Space Program” in 2000. He participated as a speaker to the First Symposium for the Personal Space Flight at the New Mexico State University–X Prize CUP 2005.

Capt. William Readdy, USNR (RET)



NASA ASTRONAUT (FORMER)

PERSONAL DATA: Born January 24, 1952, in Quonset Point, Rhode Island, but considers McLean, Virginia, to be his hometown. Married to Colleen Nevius. They have two sons and a daughter. He enjoys sailing, racquet sports, flying, and reading.

EDUCATION: Graduated from McLean High School, McLean, Virginia, in 1970; bachelor of science degree in aerospace engineering (with honors) from the U.S. Naval Academy in 1974. Distinguished graduate, U.S. Naval Test Pilot School 1980.

ORGANIZATIONS: Fellow, Society of Experimental Test Pilots. Member, Association of Space Explorers, International Academy of Astronautics, U.S. Naval Institute, American Institute of Aeronautics and Astronautics, Naval Order of the United States. Board member, National Aeronautic Association.

SPECIAL HONORS: Recipient of the Legion of Merit, the Distinguished Flying Cross, two NASA Distinguished Service Medals, three NASA Outstanding Leadership Medals, two NASA Exceptional Service Medals, three NASA Space Flight Medals, the Meritorious Service Medal, the Navy Commendation Medal, Navy Achievement Medal, Navy Expeditionary medal, two National Defense Service Medals, the Armed Forces Expeditionary Medal, Armed Forces Reserve Medal, and various unit and service awards. U.S. Naval Test Pilot School Instructor of the Year (1984). NASA Space Flight Safety Award. Federation Aeronautique Internationale awards include: the Kamarov Diploma (STS-51), the De La Vaulx Medal (STS-79) and a World Record Certificate (STS-79).

EXPERIENCE: Readdy graduated from Annapolis in 1974, and earned his wings as a naval aviator. Following fleet training in the A-6 "Intruder" at NAS Oceana, Virginia, he joined Attack Squadron Eighty-five aboard the USS Forrestal deployed to the North Atlantic and Mediterranean from 1976 until 1980. Upon completion of the Naval Test Pilot School, he served as project test pilot on a variety of programs at Strike Aircraft Test Directorate. Following a tour as a test pilot instructor, he reported in 1984 to the USS Coral Sea, on Caribbean and Mediterranean deployments. In 1986 Readdy transferred into the Naval Reserve to join NASA and served as an instructor pilot and unit commander until his naval retirement in August 2000. He has logged 7,000 flying hours in over 60 types of fixed wing and helicopters and over 550 carrier landings.

NASA EXPERIENCE: Readdy joined NASA's Johnson Space Center in October 1986 as a research pilot at Ellington Field, Houston, Texas, where he served as program manager for the highly-modified Boeing 747 Shuttle Carrier Aircraft. He was selected as an astronaut in the 1987 Group. He served in numerous support roles including:

Training Officer; Safety Officer; Operations Development Branch Chief; NASA Director of Operations, Star City, Russia; Stafford Task Force; and the first manager of Space Shuttle Program Development charged with upgrading the Space Shuttle. He served at NASA Headquarters as Associate Administrator, Space Operations Mission Directorate with oversight for the Kennedy, Johnson, Marshall and Stennis Space Centers as well as programmatic oversight for International Space Station, Space Shuttle, Space Communications and Space Launch Vehicles. Readdy recently chaired the Space Flight Leadership Council charged with oversight of NASA's successful Space Shuttle Return to Flight STS-114 mission. Readdy retired from NASA in October 2005 and formed Discovery Partners International, an aerospace consulting firm, located in Arlington, Virginia, where he serves as managing partner. (More information is available at <http://www.discovery-partners.com>).

SPACE FLIGHT EXPERIENCE: Readdy is a veteran pilot astronaut with three space flights, STS-42 (January 22-30, 1992), STS-51 (September 12-22, 1993) and STS-79 (September 16-26, 1996). Readdy has logged over 672 hours in space.

JANUARY 2006

Robert T. Richards

Mr. Richards, Vice President for Orbital Launch Systems at Orbital Sciences Corporation has full responsibility for customer satisfaction, mission success, and financial performance of Pegasus and Taurus Space Launch Vehicles. He has managed a successful launch record including all 37 Pegasus missions and 7 Taurus missions. These vehicles were designed to provide commercial low cost access to space. In addition to commercial missions, NASA continues to be a primary user of these vehicles to launch small science satellites. Mr. Richards is also responsible for adaptation of Pegasus for technology demonstration such as the NASA Demonstration of Autonomous Rendezvous Technology (DART) funded under the Space Launch Initiative and the President's vision for Space exploration.

Mr. Richards is an Associate Fellow of the AIAA, and has received the National Medal of Technology, and the National Air and Space Museum Trophy for the technical achievement of the Pegasus Development team. Mr. Richards has also received several NASA Group Achievement Awards.

LCDR Mario Runco, JR USN (RET)



**MARIO RUNCO, JR.
EARTH AND PLANETARY SCIENTIST
HUMAN EXPLORATION SCIENCE
ASTROMATERIALS RESEARCH AND EXPLORATION SCIENCE
SPACE AND LIFE SCIENCES DIRECTORATE**

PERSONAL DATA: Mario was born in the Bronx, New York on January 26, 1952. Raised in the Highbridge section of the Bronx near Yankee Stadium, his family moved to Yonkers, New York in his early teen years. He is married to the former Susan Kay Friess of Sylvania, Ohio; they have two children, Maria and Carl. He enjoys ice hockey, baseball, softball, camping, model railroads, toy train collecting, and astronomy among other interests. He played intercollegiate ice hockey on the City College of New York and Rutgers University teams. Mario's parents Mario & Filomena Ragusa Runco still reside in Yonkers, New York and Sue's parents, Fredrick and Margaret Bidlack Friess, reside in Sylvania, Ohio.

EDUCATION: Graduated from Sacred Heart School, Bronx, New York, in 1966 and Cardinal Hayes High School Bronx, New York, in 1970; received a bachelor of science degree in Earth and Planetary Science from the City College of New York in 1974, a master of science degree in Atmospheric Physics from Rutgers University, New Brunswick, New Jersey, in 1976, and an honorary doctor of science degree from the City College of New York in 1999.

SPECIAL HONORS: Awarded the Defense Superior Service, Defense Meritorious Service, NASA Exceptional Service, Navy Achievement and Navy Pistol Expert Medals. Also awarded three NASA Space Flight Medals (STS-44, STS-54 and STS-77), two Navy Sea Service Deployment Ribbons (USS NASSAU and USNS CHAUVENET), and the Navy Battle Efficiency Ribbon (USS NASSAU). Mario was also the recipient of the City College of New York's Townsend Harris Medal (1993), and the Cardinal Hayes High School John Cardinal Spellman Award (1993). As an undergraduate, he received the City College of New York Class of 1938 Athletic Service Award.

EXPERIENCE: After graduating from Rutgers University, Mario worked for a year as a research hydrologist conducting ground water surveys for the U.S. Geological Survey on Long Island, New York. In 1977, he joined the New Jersey State Police and, after completing training at the New Jersey State Police Academy, he worked as a New Jersey State Trooper until he entered the Navy in June 1978. Upon completion of Navy Officer Candidate School in Newport, Rhode Island, in September 1978, he was commissioned and assigned to the Naval Research Lab in Monterey, California, as a research meteorologist. From April 1981 to December 1983, he served as the Meteorological Officer aboard the Amphibious Assault Ship USS NASSAU (LHA-4). It was during this tour of duty that he earned his designation as a Naval Surface Warfare Officer. From January 1984 to December 1985, he worked as a laboratory instructor at

the Naval Postgraduate School in Monterey, California. From December 1985 to December 1986, he served as Commanding Officer of Oceanographic Unit 4 and the Naval Survey Vessel USNS CHAUVENET (T- AGS 29), conducting hydrographic and oceanographic surveys of the Java Sea and Indian Ocean. His last assignment within the Navy was as Fleet Environmental Services Officer, Pearl Harbor, Hawaii. Mario joined NASA in 1987 and remained on active duty as a NASA astronaut until 1994.

NASA EXPERIENCE: Selected by NASA as an astronaut candidate in June 1987, Runco qualified for assignment as an astronaut mission specialist in August of 1988. A veteran of three space flights (STS-44 in 1991, STS-54 in 1993, and STS-77 in 1996), Mario has logged over 551 hours in space which includes a 4.5 hour spacewalk during his STS-54 mission. His technical assignments to date include having served in Operations Development, where he assisted in the design, development and testing of the Space Shuttle crew escape system; in Mission Support, at the Software Avionics Integration Laboratory (SAIL), where he performed test and evaluation of Space Shuttle mission-specific flight software; at the Kennedy Space Center, as Astronaut Support, where he assisted in preparing Space Shuttle missions for launch, and in the Mission Control Center as a Capsule (Spacecraft) Communicator (CAPCOM). Mario currently serves as an Earth and Planetary Scientist, as the Lead for Science and Utilization of the International Space Station's Destiny Module Science Window and the Window Observational Research Facility (WORF) both of which he helped design, as the Project Manager for the Lunar Habitation Systems Project Fast Track., and as the JSC lead for spacecraft window optical requirements.

SPACE FLIGHT EXPERIENCE: On his first flight, Runco served on the crew of STS-44 aboard the Space Shuttle *Atlantis* which launched on the night of November 24, 1991. The primary mission objective was accomplished with the successful deployment of a Defense Support Program (DSP) satellite. In addition, the crew conducted two Military Man-in-Space Earth Observation experiments, three radiation monitoring experiments, and numerous life sciences experiments in support of long duration space flights. The mission concluded after completing 110 orbits of the Earth. *Atlantis* returned to a landing on the lakebed at Edwards Air Force Base, California, on December 1, 1991. Mission duration was 6 days, 22 hours and 50 minutes.

Just over a year later Mario served as a mission specialist on the crew of STS-54 aboard the Space Shuttle *Endeavour*. STS-54 (January 13-19, 1993) launched and landed at the Kennedy Space Center in Florida. The six-day mission featured the deployment of a NASA Tracking and Data Relay Satellite (TDRS-F) and carried the Diffuse X-Ray Spectrometer (DXS) in the payload bay. This astronomical instrument designed to expand the knowledge of stellar evolution scanned the local vicinity of our Milky Way galaxy and recorded the low-energy X-ray emanations believed to originate from the plasma remnants of an ancient supernova. Crewmate Greg Harbaugh and Runco also became the 47th and 48th Americans to walk in space during a 4.5-hour space walk designed to evaluate the limits of human performance during extravehicular activities (EVA) in anticipation of the construction of the International Space Station. In what was called the "Physics of Toys", which has since become a popular children's

educational video, the crew also demonstrated how everyday toys behave in space to an interactive audience of elementary school students across the United States. Mission duration was 5 days, 23 hours and 38 minutes.

Mario also served as a mission specialist on the crew of STS-77 aboard the Space Shuttle *Endeavour* (May 19-29, 1996). STS-77 carried a number of technology development experiments as well as a suite of microgravity science experiments. The technology development experiments included two deployable satellites both of which he deployed. For the deploy of the Spartan/Inflatable Antenna Experiment Mario was the Remote Manipulator System (Robotic Arm) operator. The other deployable was a small Satellite Test Unit (STU) which used residual atmospheric drag and the Earth's magnetic field for attitude control and stabilization. STS-77 also featured the fourth flight of a SpaceHab module as an experiment laboratory. Mario also filmed some additional Physics of Toys scenes for a sequel to the original educational video and subsequently made several appearances on the children's television show Sesame Street. Mission duration was 10 days and 39 minutes.

FEBRUARY 2006

Dr. Michael Simpson

Dr. Michael K. Simpson was appointed President of the International Space University in May 2004. His academic career extends over 25 years and three continents. He has been president of Utica College and the American University of Paris with a combined total of sixteen years of experience as an academic chief executive officer. He has taught courses in political science, international relations, business management, international law, leadership, and economics at Universities in the United States of America, France, and Australia.

Dr. Simpson received his Bachelors Degree magna cum laude from Fordham University in 1970 where he was elected to Phi Beta Kappa. He has also been elected to academic honor societies in the fields of political science and business management. After graduating from Fordham University, Dr. Simpson accepted a commission as an officer in the U.S. Navy where he served as an Oceanographic Watch Officer, Communications Officer, Leadership and Management Instructor, Repair Officer, and Political Military Action Officer. In 1993 he retired from the Naval Reserve with the rank of Commander. He holds numerous commendations including the Defense Meritorious Service Medal.

Dr. Simpson completed his Ph.D. at The Fletcher School of Law and Diplomacy of Tufts University, holds the Master of Business Administration from Syracuse University; and two Master of Arts degrees from The Fletcher School. He has also completed two prestigious one year courses in Europe: the French advanced defense institute (Institut des Hautes Études de Défense Nationale) and the General Course of the London School of Economics. Appointed by Representative Sherwood L. Boehlert, Dr. Simpson served for many years on the Northeast-Midwest Leadership Council. He is a board member of the Space Week International Association, a member of the Board of Governors of the National Space Society in the United States and a representative to the UN Committee on the Peaceful Uses of Outer Space.

Seeing universities as nodes in an interconnected lattice of educational opportunities, Dr. Simpson has been responsible for concluding partnership agreements with Universities in Australia, Asia, North America and Europe and has brought ISU into the Space Education Consortium in the United States as the only international partner in that body.

During his tenure as President of the International Space University, the school's already widely respected curriculum has been enhanced to include more material on satellite operations, management challenges of space projects, personal spaceflight, entrepreneurship, space policy, and prospects for commercial activity in space.

Dr. George F. Sowers

Dr. George F. Sowers is director of Business Development & Advanced Programs for Lockheed Martin Space Systems Company located in Denver, Colorado. He is responsible for strategic planning, advanced technology development, advanced concept development and new business acquisition efforts for the Space Transportation line of business.

Dr. Sowers previously served as director of Mission Integration for the Atlas launch vehicle program. In this role, he was responsible for all activities to integrate and fly satellites on Atlas launch vehicles. This included interface requirements development, mission design, dynamics and systems analysis and flight software development.

Prior to this assignment, Dr. Sowers was the Chief Systems Engineer and director of the Systems Engineering and Integration Team (SEIT) for the Atlas V development program. This group was responsible for systems requirements development and verification, systems test, systems integration and systems analysis. Dr. Sowers served on the Atlas V development program from near its inception through the first flight in 2002.

Dr. Sowers began his career in the aerospace industry with Martin Marietta in 1981 on the Titan program as a flight design engineer. He left the company in 1983 to obtain his PhD. Upon his return to Martin Marietta in 1988, Dr. Sowers assumed a number of increasingly responsible positions on the Titan program culminating in the role of Deputy Chief Engineer.

Dr. Sowers received his bachelor of science degree in physics from Georgia Tech in 1980, and obtained his PhD in physics from the University of Colorado in 1988.

Dr. Robert W. Sweitzer

Robert W. Sweitzer, Ph.D. serves Technology Ventures Corporation as Director, Project Development & Business Assistance for Southern New Mexico, working with entrepreneurs and innovators to bring emerging technologies into commercial ventures. Previously Dr. Sweitzer taught at Pepperdine University's Graziadio School of Business & Management, where he conceived the inaugural e-commerce event, "*Marketing at the Speed of Light*," bringing together faculty, alumni, and industry leaders.

Dr. Sweitzer received a BS in Industrial Management from Purdue University, an MBA and a Ph.D. in Business Administration, majoring in Marketing, from Michigan State University. Bob moved to Los Angeles in 1979 to join the faculty of UCLA's Graduate School of Management. He worked on the privatizations of British Shipbuilders and British Leyland for the Thatcher government under the direction of Sir Graham Day, developing product line strategies.

In 1989 Dr. Sweitzer became a faculty member at the Peter F. Drucker Graduate Management School of the Claremont Graduate University, where he developed one of the first Internet marketing courses for MBA and Executive programs, receiving the Graduate School's Professor of the Year honors. Throughout his career, Dr. Sweitzer has served as a consultant to business and industry in the areas of strategic planning, marketing and distribution for corporate clients, such as Toyota, Countrywide Credit, Southern California Edison, the Los Angeles Dodgers, Coca Cola and Avery Dennison.

As a Director for TVC, Bob brings his expertise to emerging technologies in the pursuit to corporate formations, expansions and job creation leading to equity capital investments for promising New Mexico firms.

Alex Tai, Vice President, Operations, Virgin Galactic

Trained as a pilot in the Royal Air force I started at Virgin as an airline pilot for Virgin Atlantic before embarking on special projects for Richard Branson. I have been working on the Galactic project from its conception, standing next to Paul Allen and Burt Rutan in mission control at the first X prize flight, I plan to fly the first commercial flight as one of the pilots, among my current tasks is to oversee the design and build of the new Spacecraft the SS2.

Steve Traver

Steve was born and raised in Los Angeles. After graduating from California State University he became a Naval Aviator, eventually retiring as a Commander from the Naval Reserve. He received his masters degree from the University of Southern California and began his career in California and at White Sands Missile Range as the head of laser engineering for TRW Corporation. In 1990 he was transferred to Washington to be a technical representative for TRW to the Pentagon, DOE, NASA, and Congress. He subsequently worked for the comptroller of the Air Force then joined the staff of Congressman Joe Skeen in 2001 as the Military Legislative Assistant. He became a fellow of New Mexico Tech in 2003 and is responsible to the New Mexico Congressional Delegation for analyzing the potential of new technology for economic development.

Andy Turnage, Association of Space Explorers

Andrew (Andy) Turnage has served as the Executive Director of the Association of Space Explorers – USA (ASE–USA) since May, 1995. As the Executive Director, Andy is responsible for the direction, development and operations of the U.S. chapter of the international Association of Space Explorers (ASE). As the only legally incorporated body within the international association, the ASE–USA staff is also responsible for the worldwide operations of the organization.

Prior to joining ASE, Turnage served as head coach for the Division I men’s water polo team and founded the now-varsity women’s program at the George Washington University. While at GWU, he also served as an assistant coach in the US Water Polo Men’s National B Team Program, and in 1995 as the assistant coach for the men’s World University Games team and head coach of the Olympic Festival East Team. Turnage has also worked as a backcountry guide, leading climbing and trekking expeditions in Russia and Central Asia for Recreational Equipment, Incorporated (REI).

Turnage has served on the Board of Directors for US Water Polo and the Collegiate Water Polo Association; he currently serves on the Executive Committee of the ASE and on the Board of Directors of ASE–USA. He is a member of the Advisory Committee for the X Prize Foundation.

Turnage received his Bachelor’s degree in 1988 from the University of California at San Diego. Following an immersive language program at the Moscow Energy Institute in Moscow, Russia, he received his Master’s degree in Russian and East European Studies from the George Washington University in Washington, DC. Turnage is fluent in Russian.

Col. James S. Voss



NASA ASTRONAUT (FORMER)

PERSONAL DATA: Born March 3, 1949, in Cordova, Alabama, but considers Opelika, Alabama, to be his hometown. Married to the former Suzan Curry of Birmingham, Alabama. They have one daughter. He enjoys woodworking, skiing, softball, racquetball, scuba diving, and flying an airplane he built himself. As an undergraduate, he participated on the Auburn University Wrestling Team.

EDUCATION: Graduated from Opelika High School, Opelika, Alabama; received a bachelor of science degree in Aerospace Engineering from Auburn University in 1972, a master of science degree in Aerospace Engineering Sciences from the University of Colorado in 1974 and an honorary Doctorate degree from the University of Colorado in 2000.

SPECIAL HONORS: Distinguished Summer Faculty, University of Colorado (2004), University of Colorado Distinguished Engineering Alumni Award (2003), National Aeronautic Association Gagarin Gold Medal (2003), Alabama Engineering Hall of Fame (2002), NASA Distinguished Service Medal (2001); U.S. Army Distinguished Service Medal (1999); NASA Outstanding Leadership Award (1996); NASA Exceptional Service Medal (1994); 5 NASA Space Flight Medals (1992, 1993, 1995, 2000, 2001); Defense Meritorious Service Medal (1993); Auburn University Outstanding Engineering Alumnus Award (1992), Defense Superior Service Medal (1992); Outstanding Student Award, USN Test Pilot School (1983); William P. Clements, Jr. Award for Excellence in Education as the outstanding Professor at the U.S. Military Academy (1982); Meritorious Service Medal (1982); NASA Summer Faculty Research Fellowship (1980); Commandant's List - Infantry Officer Advanced Course (1979); Army Commendation Medal (1978); Honor Graduate and Leadership Award - Ranger School (1975); Distinguished Graduate - Infantry Officer Basic Course (1974).

EXPERIENCE: Upon graduation from Auburn and commissioning as a 2nd Lieutenant, Voss went directly to the University of Colorado to obtain his masters degree under the Army Graduate Fellowship Program. After attending the Infantry Basic Course, Airborne and Ranger schools, he served with the 2nd Battalion 48th Infantry in Germany as a platoon leader, intelligence staff officer, and company commander. On returning to the United States, he attended the Infantry Officer Advanced Course, and then taught for three years in the Department of Mechanics at the U.S. Military Academy. After attending the U.S. Naval Test Pilot School and the Armed Forces Staff College, Voss was assigned to the U.S. Army Aviation Engineering Flight Activity as a Flight Test Engineer/Research and Development Coordinator. He was involved in several major flight test projects before being detailed to NASA's Lyndon B. Johnson Space Center.

NASA EXPERIENCE: Voss started working at the Johnson Space Center in November 1984. In his capacity as a Vehicle Integration Test Engineer, he supported Shuttle and payload testing at the Kennedy Space Center for STS 51-D, 51-F, 61-C and 51-L. He participated in the STS 51-L accident investigation, and supported the resulting reviews dedicated to returning the Space Shuttle safely to flight. Selected as an astronaut candidate by NASA in June 1987, Voss completed a one-year training and evaluation program in August 1988, which qualified him for assignment as a mission specialist on Space Shuttle flights. He has worked as a flight crew representative in the area of Shuttle safety, as a CAPCOM, providing a communications interface between ground controllers and flight crews during simulations and Shuttle flights, and as the Astronaut Office Training Officer. Jim served as the back-up crew member for two missions to the Russian Space Station *Mir*. During this time he lived and trained for 2 years at the Gagarin Cosmonaut Training Center in Star City, Russia. Voss served as a mission specialist on STS-44 in 1991 and STS-53 in 1992, was the payload commander on STS-69 in 1995, and again was a mission specialist on STS-101 in 2000. During 2001 he lived and worked aboard the International Space Station as a member of the Expedition-2 crew. A veteran of five space flights, Voss has logged 201 days in space, including four spacewalks totaling 22 hours and 35 minutes of EVA time. Jim's last role with NASA was as the Deputy for Flight Operations in the Space Station Program Mission Integration and Operations Office.

Jim retired from NASA in 2003 to serve as Associate Dean of Engineering for External Affairs at Auburn University, assisting with student projects and development for the College and teaching a class in Aerospace Engineering on human spacecraft design. Jim currently serves as Vice President for Space Exploration Systems, Transformational Space Corporation, with responsibility for all their technical space activities, including the design and fabrication of a human spacecraft to support ISS.

SPACE FLIGHT EXPERIENCE: STS-44 *Atlantis* (November 24 - December 1, 1991) launched at night from the Kennedy Space Center (KSC), Florida and returned to land on the lakebed at Edwards Air Force Base, California. The primary mission objective was accomplished with the successful deployment of a Defense Support Program (DSP) satellite with an Inertial Upper Stage (IUS) rocket booster. In addition, the crew also conducted two Military Man in Space experiments, three radiation monitoring experiments, and numerous medical tests to support longer duration Shuttle flights. The mission was concluded after 110 orbits of the Earth in 166 hours, 50 minutes and 42 seconds.

STS-53 *Discovery* (December 2-9, 1992) launched from Kennedy Space Center, Florida, and returned to land at Edwards Air Force Base, California. The five-man crew deployed the classified Department of Defense payload DOD-1 and also performed several Military Man in Space and NASA experiments. Mission duration was 115 orbits of the Earth in 175 hours, 19 minutes and 17 seconds.

STS-69 *Endeavour* (September 7-18, 1995) launched from and returned to land at the Kennedy Space Center, Florida. On this mission Jim served as Payload Commander.

The crew successfully deployed and retrieved a SPARTAN satellite and the Wake Shield Facility. Also on board was the International Extreme Ultraviolet Hitchhiker payload, and numerous secondary payloads and medical experiments. Jim conducted an EVA (space walk) lasting 6 hours 46 minutes to test space suit modifications and to evaluate procedures and tools to be used to construct the International Space Station. Mission was accomplished in 171 orbits of the Earth in 260 hours and 28 minutes.

STS-101 *Atlantis* (May 19-29, 2000) was the third Shuttle mission devoted to International Space Station (ISS) construction. The crew transported and installed over 3,000 pounds of equipment and supplies, and repaired Station electrical and environmental control components. Jim conducted his second space walk lasting 6 hours and 44 minutes to complete Station assembly tasks. Mission duration was 155 orbits of the Earth in 236 hours and 9 minutes.

The Expedition 2 crew launched on March 8, 2001 aboard STS-102 Discovery and successfully docked with the International Space Station on March 9, 2001. As a member of the second crew to live on ISS, Voss served aboard the space station for a total of 163 days and returned to earth with the STS-105 crew on August 22, 2001. During the expedition, Jim conducted spacewalks in both U.S. and Russian space suits and was the first person to operate the Space Station Robotic Manipulator System, Canadarm2. Other highlights of the mission included assembly tasks, 18 scientific experiments, a Soyuz capsule flyaround, addition of the joint airlock to ISS and 5 visiting spacecraft. In completing this mission, Voss logged a total of 167 days in space, including 2 spacewalks totaling 9 hours and 5 minutes of EVA time.

OCTOBER 2005

Gary Whitehead

My name is Gary Whitehead. I am representing the Sierra County Commission. I am serving on the commission as an appointee of Governor Richardson. I was elected to two terms with the Sierra County Commission in 1994 and 1996 and was appointed County Manager in June of 1999. I served on the New Mexico Space Commission from 1994 through 1999 as the representative from Sierra County. I remain very active in our local community, serving on many boards and committees. I currently serve on the South Central Regional Planning Organization, Sierra County Economic Development Organization and The Sierra Vista Hospital Planning committee. I am a native of Truth or Consequences and Sierra County.

Stuart Witt

Born in Bakersfield, California and raised in Onyx at Scodie Rance. 1970 Graduate of Kern Valley High School; 1974 Graduate of California State University Northridge; 1997 Graduate of the Naval Aviation Schools Command; 1980 Graduate of the Naval Fighter Weapons School; (TOPGUN) and 1996 Graduate of the University of Maryland's Center for Creative Leadership. His military career took him to sea as a carrier based F-14 Tomcat pilot with VF-14 and as an FA-18A project pilot at the Naval Air Warfare Center, China Lake California. Post Navy, 1985, Stu joined Westinghouse Electric Corporation, currently Northrop Grumman, for nearly nine years as an Engineering Test Pilot on the B-1B, F-16C and F-23. He later became Region Field Marketing manager for Westinghouse's Electronic Systems Group in Baltimore Maryland. Stu joined CTA as a Program Manager in 1993 where he managed a \$100M Range Development contract. After successfully completing this project and winning the follow-on competition, Stu was promoted to Vice President/Western Region Director, then to Executive Vice President, Director of CTA's nationwide State and Commercial practice. For the past 40 months, Stu has been directing the expansion efforts of the East Kern Airport District's Mojave Spaceport/Civilian Flight Test Center. In June 04, Mojave Spaceport was designated the nation's first inland spaceport and played host to the world as Scaled Composites qualified and won the \$10M Ansari XPrize at Mojave Spaceport and furthermore gave birth to the first man rated commercial space program in the world. These efforts have generated commendations by California's Governor Schwarzenegger, along with the State Assembly and State Senate, Kern County's Board of Supervisors and Congressman Bill Thomas.

Stu is married to the former Susan Etoch and resides in Ridgecrest California. They have three grown sons.

Jeffrey V. Zweber, Ph.D.

Dr. Zweber is currently, Technical Advisor, Operationally Responsive Space Access Future Capability Office, Air Vehicles Directorate, AFRL and Chief Technologist, ARES Scaled Demonstrator Advanced Technology Demonstration Office formerly, Space Access Pillar Coordinator, National Aerospace Initiative, Office of the Director, Defense Research & Engineering