Aerospace Legacy Engineering and Technology Recovery Organization d/b/a (ALETRO)
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October 15, 2013

Biographical Sketches:

ALETRO Officers: C. Wayne Ottinger, President, ALETRO

Mr. Ottinger has more than fifty-five years of aerospace engineering and management experience including positions with federal and state agencies, industry, consulting, and small business. His aerospace technology experience includes jet and rocket propulsion, flight-testing, engine control systems, ejection systems, energy conservation and renewable energy sources and state-of-the-art industrial imaging and diagnostic systems. He has organized and run workshops, provided graphic production and publishing services, written and produced technical films.

He was the Lunar Landing Training Vehicle Technical Director and Base Manager (Ellington Field LLTV Flight Test) for Bell Aerosystems Co. and for the NASA Flight Research Center (now the Dryden Flight Research Center) he was Project Engineer (Flight Operations) for the Lunar Landing Research Vehicle and for the X-15 Rocket Aircraft served as the flight test Propulsion Engineer.

In 2007, Ottinger conceived and initiated the Go for Lunar Landing Conference held in Tempe, AZ, March 4th & 5th, 2008 (found on ALETRO's website: lunarlanding.info). In June 2008 he founded ALETRO, a nonprofit corporation and serves as President. In 2008 & 2009 he served as a NASA SAGES (Shuttle and Apollo Generation Expert Services) consultant on the NASA DRFC Trade Study for Lunar Landing Training Vehicle (LLTV) options on the Constellation program. He co-authored NASA DFRC report (2010) "A Toolset for an Advanced Landing Technology Development and Training Program".

Ottinger promoted and participated in a conference in December, 2008 at the NASA Johnson Space Center, with Apollo astronauts Neil Armstrong, Apollo 11 Commander, John Young, Apollo 16 Commander, Gene Cernan, Apollo 17 Commander, and Harrison (Jack) Schmitt, Apollo 17 LM Pilot. They briefed the Constellation Lunar Landing Project Office about the LLTV training program with recommendations for future missions.

Education: BSME University of Arizona, 1955, Graduate Studies at the University of Southern California, Math and Rocket Propulsion, 1957 & 1958

Joe Tanner, Secretary-Treasurer, ALETRO

Joe Tanner is a Senior Instructor in the Aerospace Engineering Sciences Department at the University of Colorado in Boulder. He teaches a two-semester Graduate Projects course to students at Masters and PhD levels. The students work design projects in the areas of human spacecraft, small satellites, and unmanned aerial vehicles. Prior to joining the faculty at the University of Colorado in 2008, he was employed by NASA at Johnson Space Center for eight years as an instructor and research pilot and 16 years as an astronaut. Joe flew four missions on the space shuttle with one being to the Hubble Space Telescope and two to the International Space Station. During his four missions he performed seven spacewalks or EVAs totaling more than forty-six hours. His primary duty as an instructor pilot was to train the astronaut pilots landing techniques in the Shuttle Training Aircraft. Joe started his flying career as a U.S. Navy jet aircraft pilot. Tanner flew aboard the Space Shuttle Atlantis on the STS-66, November 3–14, 1994, performing the Atmospheric Laboratory for Applications and Science-3 (ATLAS-3) mission. ATLAS-3 was the third in a series of flights to study the Earth's atmosphere composition and solar effects at several points during the Sun's 11-year cycle. The mission also carried the CRISTA-SPAS satellite that was deployed to study the chemical composition of the middle atmosphere and then was retrieved later in the mission. Tanner logged 262 hours and 34 minutes in space and 175 orbits of the Earth.

Tanner performed two space walks as a member of the STS-82 crew to service the Hubble Space Telescope (HST) in February, 1997. The STS-82 crew of seven launched aboard Space Shuttle Discovery on February 11 and returned to a night landing at Kennedy Space Center on February 21. During the flight the crew completed a total of five space walks to improve the science capability of the telescope and replace aging support equipment, restoring HST to near perfect working condition. The crew boosted HST's orbit by eight nautical miles (15 km) before releasing it to once again study the universe. Tanner's two space walks totaled 14 hours and 01 minutes. The flight orbited the earth 150 times covering 4.1 million miles (6,600,000 km) in 9 days, 23 hours, 37 minutes.

Tanner's third mission was STS-97 aboard Space Shuttle Endeavour (November 30 to December 11, 2000), the fifth Space Shuttle mission dedicated to the assembly of the International Space Station. While docked to the station, the crew installed the first set of U.S. solar arrays, in addition to delivering supplies and equipment to the station's first resident crew. Tanner performed three space walks totaling 19 hours 20 minutes. Mission duration was 10 days, 19 hours, 57 minutes, and covered 4.47 million miles (7,190,000 km).

Tanner's fourth mission, STS-115 aboard Space Shuttle Atlantis launched on September 9, 2006. On September 13, he participated in the 5 hour 26 minute spacewalk to connect the P3/4 truss to the ISS. STS-115 returned to Earth on September 21, 2006. . Joe started his flying career as a U.S. Navy jet aircraft pilot.

ALETRO Directors:

John Mason, Director, Ph.D., ALETRO

Dr. John L. Mason served in the U.S. Air Force and the Air Force Reserve from 1942 to 1957. In August 1950, Dr. Mason went to work for The Garrett Corporation, a major aircraft equipment company. Mason stayed with Garrett and its successor company Allied-Signal (since renamed Honeywell) until his retirement as Vice President Engineering and Technology of Allied-Signal Aerospace in January 1989. In his early work at Garrett, under Air Force sponsorship, he led pioneer studies on vapor cycle cooling and refrigerant selection for aircraft. In his final assignment at Allied-Signal, he was responsible for the engineering performance of 26 company business units and three research centers.

Dr. Mason has taught extension courses at UCLA on aircraft air conditioning, aircraft equipment cooling, and spacecraft thermal management. He served on a NASA research advisory committee on biotechnology and human research. In 1993 he chaired a panel of the California Council on Science and Technology that under contract to the State of California studied a new transportation research center, the scope of which included both ground transportation and aerospace. Dr. Mason currently consults on the on the design of energy-efficient pumps, compressors, and engines.

Dr. Mason was the 1990 president of the Society of Automotive Engineers (SAE), and continues as a member of the SAE Southern California Section Governing Board. For SAE's "A World in Motion" K-12 educational program, he is a current volunteer at a public intermediate school in Inglewood, CA, co-designing and teaching a course in electronics. He has served on SAE's Aerospace Council and chaired its Technical Board, the responsible SAE body for Aerospace Standards.

Dr. Mason is a Fellow of SAE and an Associate Fellow of AIAA. He is also a member of AAAS, ASME, and NAE.

He is a Trustee (Emeritus) of the 501(c) (3) Planetary Science Institute in Tucson, and has been a recent member of an advisory panel to the USC Aerospace & Mechanical Engineering School.

Education:
B.S. in Meteorology from the University of Chicago, 1944
Ph.D. in Chemical Engineering from Caltech, June 1950

Nick Jury, Director, ALETRO

Following two years of research as a tumor biologist and electron micrographer, Nick Jury has nearly two dozen years experience in information technology, designing and implementing enterprise, data-centric systems, including systems for business intelligence, corporate data-mining, data systems architecture and engineering, and document archiving, preservation, and warehousing. Nick's has worked as IT liaison for corporate relations with local, state, and federal divisions of government and maintained technical collaborations between corporate and academic institutions and various federal agencies, including the Department of Health and Human Services and various departments of nine of the states and the District of Columbia. Currently, Nick is developing a memorandum of understanding with UN FAO for his department at the University of Arizona and is completing his first major research grant as principle investigator (NSF NSDL 08-554).

Nick has held leadership roles in corporate IT in five states as well as senior technical positions at the Universities of Michigan and Arizona, where he is currently leading the efforts to design and implement the university's institutional repository. Nick and his wife, Marion, are the proud parents of ten children—five boys and five girls.

Education:

B.S. from the University of Alabama, Natural Sciences -- Professional Affiliations: Phi Kappa Phi, Born Digital IT Infrastructure Advisory Group (U.S. Land Grant Institutional Advisory)

John Terry White, Director:

John Terry White is president and CEO of White Eagle Aerospace, LLC. With headquarters in Oro Valley, Arizona, White Eagle Aerospace provides engineering consulting, professional training, history of flight lectures and technical publication services to the aerospace community.

White's 35 years of professional aerospace experience includes the NASA Space Shuttle Program, NASA X-43A Flight Project, and United States Navy STANDARD Missile Program. During his long career, he has served on the engineering technical staff of Rockwell International, General Dynamics Corporation, Hughes Missile Systems Company, NASA Dryden Flight Research Center and Raytheon Missile Systems.

In 2009, White completed a 2-year assignment as manager of the Aerodynamics Department in the Guidance, Navigation, and Control Center at Raytheon Missile Systems in Tucson, Arizona. In this capacity, he was responsible for all aerodynamics work performed at the world's largest tactical missile producer. White retired from Raytheon in 2010 as an Engineering Senior Fellow in Aerodynamics Pomona, 10 years as an instructor in the professional development program at Raytheon and 4 years teaching at White Eagle Aerospace. Those who have taken his courses say that White brings an uncommon passion and extensive technical knowledge to the training environment.

White is particularly well known for his inspiring aerospace history lectures and presentations. These "techno-histories" are intense, fast-paced reviews of historically-significant events in United States aerospace history. White has lectured extensively on aerospace history topics including the USAF Test Pilot School, the Society of Experimental Test Pilots, the National Aeronautics and Space Administration, the American Institute of Aeronautics and Astronautics, academia, and industry.

White also serves as a motivational keynote speaker for aerospace conferences, business functions, commemorative events, public service organizations, special interest groups, and private business.

White's professional affiliations include the AIAA, SFTE, ITEA, NAA, SAE, AAHS, FTHF, and NSS. Terry White and his wife Phyllis reside in Oro Valley, Arizona. They are the happy parents of five remarkable children.

White has authored more than 180 technical papers on a wide variety of aeroscience and aerospace subjects. His teaching credentials include 15 years as an instructor in the Aerospace Engineering Department of the California State Polytechnic University.

ALETRO Advisory Board:
Mark Ogren, Advisory Board Member
V.P. Business Development.
Orbital Sciences Launch Systems

Lloyd Walsh of Kingman, Arizona – Advisory Board Member

Employed by the National Aeronautics and Space Administration (NASA) and its predecessor the National Advisory Committee for Aeronautics (NACA), as the Director of Procurement for the Dryden Flight Research Center, Edwards, California (20 years) and the Ames Research Center, Mountain View, California (10 years). Also served in a temporarily assignment with NASA Headquarters as the Acting Director for Procurement Policy and Assistant Administrator for Procurement Research.

Post NASA Retirement: Served as a Senior Associate with Business Management Research

Associates, Inc., Arlington Virginia and also formed a partnership which provided consulting services.
Education: LLB, LaSalle
Professional Affiliations:
National Contract Management Association
Honorary Life Member
Fellow
Past National President
Certified Professional Contract Manager

Other Related Affiliations:
Saint Mary's College, Master of Science, Member, Advisory Council
People to People International, Citizen Ambassador Program
Delegation Leader, People's Republic of China, 1986 and 1988, Contracts and Joint Ventures

Stephen A. Whitmore, Ph.D. (Utah State University), Advisory Board Member

Dr. Stephen A. Whitmore is an assistant professor of mechanical and aerospace engineering at Utah State University (USU) in Logan, Utah. He joined USU after more than 28 years working as a civil servant for NASA. He accepted early retirement from NASA in April 2005. Prior to his retirement , Dr. Whitmore was an original member of the team selected to formulate the Constellations Systems Program at NASA Headquarters. For the previous 15 years before accepting the USU position, Dr. Whitmore worked in various aspects of NASA's "space-access" program, including work on seven "X-vehicles." Dr. Whitmore served multiple roles within NASA including research engineer, technical lead, group leader, principal investigator, chief engineer, and branch chief. From 2000-2002 Dr. Whitmore completed a two-year tenure as the Michael J. Smith Space Systems (NASA Chair) Professor at the Naval Postgraduate School (NPS), Monterey CA. The position is a NASA-funded academic chair in the Space Systems Academic Group at NPS, and was created in honor of the late astronaut CAPT Michael J. Smith, an alumnus of NPS. The chair position is a competitive appointment with candidates coming from a pool of highly qualified NASA managers, scientists, and engineers. During his tenure at NPS, Dr. Whitmore instructed multiple classes in orbital mechanics, spacecraft and launch-systems, and served as thesis advisor to five students.

Dr. Whitmore attended undergraduate school at the University of Illinois, Urbana IL, where he graduated cum laude with a BS in aerospace engineering (1980). He attended graduate school at the University of California, Los Angeles CA, where he received MS (1983), engineer (1987), and doctoral (1989) degrees in aerospace engineering. Dr. Whitmore has published over 100 technical monographs including NASA technical memoranda and technical reports, conference papers, book chapters, and peer-reviewed journal publications. He has four awarded patents and has received multiple national and international awards including Outstanding Scientist at both NASA Ames and NASA Dryden research centers, and the NASA Engineering Achievement Medal. Dr. Whitmore is an Associate Fellow of the American Institute of Aeronautics and Astronautics (AIAA), is a member of the AIAA Space Systems and Hybrid Rocket Systems Technical Committees. He was a finalist for the Astronaut class of 2000.

Dr. Whitmore is director of the Chimaera Hybrid and High-Powered Rocketry program at USU. For two successive academic years, 2007-2008 & 2008-2009, the USU senior design team lead by Dr. Whitmore won the NASA-sponsored University Student Launch Initiative (USLI) Competition at Huntsville Alabama. The rocket used a closed loop energy management system to deploy drag devices to modulate the rocket energy to achieve precisely 5280 ft altitude above the local ground level, a primary objective of the USLI competition. At the 2009 competition launch, the rocket missed the one-mile target altitude by approximately 0.8-meter. This result was an amazing accomplishment for a group of inexperienced student-engineers. He has advised student teams on 14 ground-based rocket motor firings and seven test launches while at USU.

During Academic year 2009-2010 Dr. Whitmore lead a NASA-funded senior design project that challenged students to apply systems engineering concepts to define research and training requirements for a terrestrial-based lunar landing simulator. The project designed, built, and tested a free flying research vehicle that reproduced many of the capabilities demonstrated by the 1960s-era Lunar Landing Research Vehicle. This sub-scale (~$1/10^{th}$ scale) vehicle produced by this work simulates the reduced-gravity (i.e., lunar or planetary surface environment) using a vertically-thrusting jet engine to partially offset the vehicle weight. Although this vehicle is remotely piloted, the design is intended as a scalable configuration.

Experience gained with the Chimaera rocket program has recently spun off a series of research topics focusing on the characterization and modeling of medium-scale experimental hybrid rocket motors, and a NASA EPSCOR-funded aerospike nozzle project. The aerospike project seeks to develop quasi-passive, non-gimbaled thrust vectoring techniques using flow-manipulation on the nozzle surface. Because the flow is unconstrained on one side, it is believed that these techniques will allow the generation of very significant side forces to develop via surface flow injection. This experiment seeks to characterize the fidelity of these forces and to develop algorithms for precisely controlling the generated thrust moments.

Dr. Whitmore teaches classes in compressible fluids, propulsion systems, mechanical measurements, and the aerospace section of the capstone senior design course at USU. During the previous five years, Dr. Whitmore has received research grants, awards, and contracts with a total funded value equaling $1,286,320. Dr. Whitmore has published more than 100 technical monographs, including 24 peer reviewed journal publications. He has written three book chapters and has four awarded USA patents, and one pending.