



Starscan

Johnson Space Center Astronomical Society

*JSCAS is an association of amateur astronomers
dedicated to the study and enjoyment of astronomy. Membership is
open to anyone wishing to learn about astronomy.*

Volume 19, Number 2

JSCAS Web Page: www.ghg.net/cbr/jscas/

Feb 2003

Our Seven New Stars



This issue of the Starscan will be dedicated to the memory of our fallen heroes. For those of us who knew members of the crew personally, this is an especially hard time. Our hearts go out to their families and loved ones. Some of you may not know that Dave Brown was a member of our club and had joined us at several Fort McKavett Star Parties. He would huddle over his scope as most of us do through the night, hunting the illusive wonders and honing his astrophotography skills. We were honored to have him near us and we will miss him dearly.



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Houston, Texas 77058



Biographical Data

RICK DOUGLAS HUSBAND (COLONEL, USAF)

NASA ASTRONAUT

PERSONAL DATA: Born July 12, 1957, in Amarillo, Texas. Married. Two children. He enjoys singing, water and snow skiing, cycling, and spending time with his family.

EDUCATION: Graduated from Amarillo High School, Amarillo, Texas, in 1975. Received a Bachelor of Science degree in mechanical engineering from Texas Tech University in 1980, and a Master of Science degree in mechanical engineering from California State University, Fresno, in 1990.

ORGANIZATIONS: Member of the Society of Experimental Test Pilots, Tau Beta Pi, Air Force Association, and the Texas Tech Ex-Students Association.

SPECIAL HONORS: Distinguished Graduate of AFROTC, Undergraduate Pilot Training, Squadron Officers School, F-4 Instructor School, and USAF Test Pilot School; Outstanding Engineering Student Award, Texas Tech University, 1980; F-4 Tactical Air Command Instructor Pilot of the Year (1987); named a 1997 Distinguished Engineer of the College of Engineering, Texas Tech University. Military decorations include the Meritorious Service Medal with two Oak Leaf Clusters, the Aerial Achievement Medal, the Air Force Commendation Medal, the National Defense Service Medal, two NASA Group Achievement Awards for work on the X-38 Development Team and the Orbiter Upgrade Definition Team.

EXPERIENCE: After graduation from Texas Tech University in May 1980, Husband was commissioned a second lieutenant in the USAF and attended pilot training at Vance Air Force Base (AFB), Oklahoma. He graduated in October 1981, and was assigned to F-4 training at Homestead AFB, Florida. After completion of F-4 training in September 1982, Husband was assigned to Moody AFB, Georgia flying the F-4E. From September to November 1985, he attended F-4 Instructor School at Homestead AFB and was assigned as an F-4E instructor pilot and academic instructor at George AFB, California in December 1985. In December 1987, Husband was assigned to Edwards AFB, California, where he attended the USAF Test Pilot School. Upon completion of Test Pilot School, Husband served as a test pilot flying the F-4 and all five models of the F-15. In the F-15 Combined Test Force, Husband was the program manager for the Pratt & Whitney F100-PW-229 increased performance engine, and also served as the F-15 Aerial Demonstration Pilot. In June 1992, Husband was assigned to the Aircraft and Armament Evaluation Establishment at Boscombe Down, England, as an exchange test pilot with the Royal Air Force. At Boscombe Down, Husband was the Tornado GR1 and GR4 Project Pilot and served as a test pilot in the Hawk, Hunter, Buccaneer, Jet Provost, Tucano, and Harvard. He has logged over 3800 hours of flight time in more than 40 different types of aircraft.

NASA EXPERIENCE: NASA selected Husband as an astronaut candidate in December 1994. He reported to the Johnson Space Center in March 1995 to begin a year of training and evaluation. Upon completion of training, Husband was named the Astronaut Office representative for Advanced Projects at Johnson Space Center, working on Space Shuttle Upgrades, the Crew Return Vehicle (CRV) and studies to return to the Moon and travel to Mars. Most recently, he served as Chief of Safety for the Astronaut Office. He flew as pilot on STS-96 in 1999, and has logged 235 hours and 13 minutes in space.

SPACE FLIGHT EXPERIENCE: STS-96 Discovery (May 27 to June 6, 1999) was a 10-day mission during which the crew performed the first docking with the International Space Station and delivered 4 tons of logistics and supplies in preparation for the arrival of the first crew to live on the station early next year. The mission was accomplished in 153 Earth orbits, traveling 4 million miles in 9 days, 19 hours and 13 minutes.



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Biographical Data

WILLIAM C. MCCOOL (COMMANDER, USN) NASA ASTRONAUT

PERSONAL DATA: Born September 23, 1961 in San Diego, California. Married. He enjoys running, mountain biking, backcountry hiking/camping, swimming, playing guitar, chess.

EDUCATION: Graduated from Coronado High School, Lubbock, Texas, in 1979; received a Bachelor of Science degree in applied science from the US Naval Academy in 1983, a Master of Science degree in computer science from the University of Maryland in 1985, and a Master of Science degree in aeronautical engineering from the US Naval Postgraduate School in 1992.

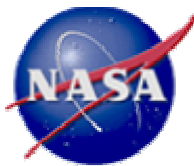
ORGANIZATIONS: U.S. Naval Academy Alumni Association.

SPECIAL HONORS: Eagle Scout; graduated second of 1,083 in the Class of 1983 at the US Naval Academy; presented "Outstanding Student" and "Best DT-II Thesis" awards as graduate of U.S. Naval Test Pilot School, Class 101; awarded Navy Commendation Medals (2), Navy Achievement Medals (2), and various other service awards.

EXPERIENCE: McCool completed flight training in August 1986 and was assigned to Tactical Electronic Warfare Squadron 129 at Whidbey Island, Washington, for initial EA-6B Prowler training. His first operational tour was with Tactical Electronic Warfare Squadron 133, where he made two deployments aboard USS CORAL SEA (CV-43) to the Mediterranean Sea, and received designation as a wing qualified landing signal officer (LSO). In November 1989, he was

selected for the Naval Postgraduate School/Test Pilot School (TPS) Cooperative Education Program. After graduating from TPS in June 1992, he worked as TA-4J and EA-6B test pilot in Flight Systems Department of Strike Aircraft Test Directorate at Patuxent River, Maryland. He was responsible for the management and conduct of a wide variety of projects, ranging from airframe fatigue life studies to numerous avionics upgrades. His primary efforts, however, were dedicated to flight test of the Advanced Capability (ADVCAP) EA-6B. Following his Patuxent River tour, McCool returned to Whidbey Island, and was assigned to Tactical Electronic Warfare Squadron 132 aboard USS ENTERPRISE (CVN-65). He served as Administrative and Operations Officer with the squadron through their work-up cycle, receiving notice of NASA selection while embarked on ENTERPRISE for her final pre-deployment at-sea period. McCool has over 2,800 hours flight experience in 24 aircraft and over 400 carrier arrestments.

NASA EXPERIENCE: Selected by NASA in April 1996, McCool reported to the Johnson Space Center in August 1996. He completed two years of training and evaluation, and is qualified for flight assignment as a pilot. Initially assigned to the Computer Support Branch, McCool also served as Technical Assistant to the Director of Flight Crew Operations, and worked Shuttle cockpit upgrade issues for the Astronaut Office.



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Biographical Data

NAME: Michael P. Anderson (Lieutenant Colonel, USAF)
NASA Astronaut

PERSONAL DATA: Born December 25, 1959, in Plattsburgh, New York. Considers Spokane, Washington, to be his hometown. Married. He enjoys photography, chess, computers, and tennis.

EDUCATION: Graduated from Cheney High School in Cheney, Washington, in 1977. Bachelor of science degree in physics/astronomy from University of Washington, 1981. Master of Science degree in physics from Creighton University, 1990.

SPECIAL HONORS: Distinguished graduate USAF Communication Electronics Officers course. Recipient of the Armed Forces Communication Electronics Associations Academic Excellence Award 1983. Received the USAF Undergraduate Pilot Training Academic Achievement Award for Class 87-08 Vance AFB. Awarded the Defense Superior Service Medal, the USAF Meritorious Service Medal, and the USAF Achievement Medal with one oak leaf cluster.

EXPERIENCE: Anderson graduated from the University of Washington in 1981 and was commissioned a second lieutenant. After completing a year of technical training at Keesler AFB Mississippi he was assigned to Randolph AFB Texas. At Randolph he served as Chief of Communication Maintenance for the 2015 Communication Squadron and later as Director of Information System Maintenance for the 1920 Information System Group. In 1986 he was selected to attend Undergraduate Pilot Training at Vance AFB, Oklahoma. Upon graduation he was assigned to the 2nd Airborne Command and Control Squadron, Offutt AFB Nebraska as an EC 135 pilot, flying the Strategic Air Commands airborne command post code-named "Looking Glass". From January 1991 to September 1992 he served as an aircraft commander and instructor pilot in the 920th Air Refueling Squadron, Wurtsmith AFB Michigan. From September 1992 to February 1995 he was assigned as an instructor pilot and tactics officer in the 380 Air Refueling Wing, Plattsburgh AFB New York. Anderson has logged over 3000 hours in various models of the KC-135 and the T-38A aircraft.

NASA EXPERIENCE: Selected by NASA in December 1994, Anderson reported to the Johnson Space Center in March 1995. He completed a year of training and evaluation, and is qualified for flight crew assignment as a mission specialist. Anderson was initially assigned technical duties in the Flight Support Branch of the Astronaut Office. Most recently, he flew on the crew of STS-89. In completing his first space flight Anderson has logged over 211 hours in space.

SPACE FLIGHT EXPERIENCE: STS-89 (January 22-31, 1998), was the eighth Shuttle-*Mir* docking mission during which the crew transferred more than 9,000 pounds of scientific equipment, logistical hardware and water from Space Shuttle *Endeavor* to *Mir*. In the fifth and last exchange of a U.S. astronaut, STS-89 delivered Andy Thomas to *Mir* and returned with David Wolf. Mission duration was 8 days, 19 hours and 47 seconds, traveling 3.6 million miles in 138 orbits of the Earth.



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Biographical Data

LAUREL BLAIR SALTON CLARK, M.D. (COMMANDER, USN) NASA ASTRONAUT

PERSONAL DATA: Born in Iowa, but considers Racine, Wisconsin, to be her hometown. Married with one child. She enjoys scuba diving, hiking, camping, biking, parachuting, flying, and traveling. Her parents reside in New Mexico.

EDUCATION: Graduated from William Horlick High School, Racine Wisconsin in 1979; received Bachelor of Science degree in zoology from the University of Wisconsin-Madison in 1983 and doctorate in medicine from the same school in 1987.

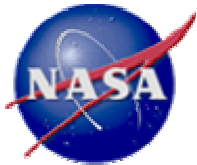
ORGANIZATIONS: Aerospace Medical Association, Society of U.S. Naval Flight Surgeons.

AWARDS: Navy Commendation Medals (3); National Defense Medal, and Overseas Service Ribbon

EXPERIENCE: During medical school she did active duty training with the Diving Medicine Department at the Naval Experimental Diving Unit in March 1987. After completing medical school, Dr. Clark underwent postgraduate Medical education in Pediatrics from 1987-1988 at Naval Hospital Bethesda, Maryland. The following year she completed Navy undersea medical officer training at the Naval Undersea Medical Institute in Groton Connecticut and diving medical officer training at the Naval Diving and Salvage Training Center in Panama City, Florida, and was designated a Radiation Health Officer and Undersea Medical Officer. She was then assigned as the Submarine Squadron Fourteen Medical Department Head in Holy Loch Scotland. During that assignment she dove with US Navy divers and Naval Special Warfare Unit Two Seals and performed numerous medical evacuations from US submarines. After two years of operational experience she was designated as a Naval Submarine Medical Officer and Diving Medical Officer. She underwent 6 months of aeromedical training at the Naval Aerospace Medical Institute in Pensacola, Florida and was designated as a Naval Flight Surgeon. She was stationed at MCAS Yuma, Arizona and assigned as Flight Surgeon for a Marine Corps AV-8B Night Attack Harrier Squadron (VMA 211). She made numerous deployments, including one overseas to the Western Pacific, practiced medicine in austere environments, and flew on multiple aircraft. Her squadron won the Marine Attack Squadron of the year for its successful deployment. She was then assigned as the Group Flight Surgeon for the Marine Aircraft Group (MAG 13). Prior to her selection as an astronaut candidate she served as a Flight Surgeon for the Naval Flight Officer advanced training squadron (VT-86) in Pensacola, Florida. LCDR Clark is Board Certified by the National Board of Medical Examiners and holds a Wisconsin Medical License. Her military qualifications include Radiation Health Officer, Undersea Medical Officer,

Diving Medical Officer, Submarine Medical Officer, and Naval Flight Surgeon. She is a Basic Life Support Instructor, Advanced Cardiac Life Support Provider, Advanced Trauma Life Support Provider, and Hyperbaric Chamber Advisor.

NASA EXPERIENCE: Selected by NASA in April 1996, Dr. Clark reported to the Johnson Space Center in August 1996. After completing two years of training and evaluation, she was qualified for flight assignment as a mission specialist. From July 1997 to August 2000 Dr. Clark worked in the Astronaut Office Payloads/Habitability Branch.



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Biographical Data

DAVID M. BROWN (CAPTAIN, USN)

NASA ASTRONAUT

PERSONAL DATA: Born April 16, 1956 in Arlington, Virginia. Single. Enjoys flying and bicycle touring. Was a four-year collegiate varsity gymnast. While in college he performed in the Circus Kingdom as an acrobat, 7-foot unicyclist and stilt walker. His parents, Paul and Dorothy Brown, reside in Washington, Virginia.

EDUCATION: Graduated from Yorktown High School, Arlington, Virginia, in 1974; received Bachelor of Science degree in biology from the College of William and Mary in 1978 and a doctorate in medicine from Eastern Virginia Medical School in 1982.

ORGANIZATIONS: Past President, International Association of Military Flight Surgeon Pilots. Associate Fellow, Aerospace Medical Association. Society of U.S. Naval Flight Surgeons.

SPECIAL HONORS: Navy Operational Flight Surgeon of the Year in 1986, Meritorious Service Medal, and Navy Achievement Medal.

EXPERIENCE: Brown joined the Navy after his internship at the Medical University of South Carolina. Upon completion of flight surgeon training in 1984, he reported to the Navy Branch Hospital in Adak, Alaska, as Director of Medical Services. He was then assigned to Carrier Airwing Fifteen, which deployed aboard the USS Carl Vinson in the western Pacific. In 1988, he was the only flight surgeon in a ten-year period to be chosen for pilot training. He was ultimately designated a naval aviator in 1990 in Beeville, Texas, ranking number one in his class. Brown was then sent for training and carrier qualification in the A-6E Intruder. In 1991 he reported to the Naval Strike Warfare Center in Fallon, Nevada, where he served as a Strike Leader Attack Training Syllabus Instructor and a Contingency Cell Planning Officer. Additionally, he was qualified in the F-18 Hornet and deployed from Japan in 1992 aboard the USS Independence

flying the A-6E with VA-115. In 1995, he reported to the U.S. Naval Test Pilot School as their flight surgeon where he also flew the T-38 Talon.

Brown has logged over 2,700 flight hours with 1,700 in high performance military aircraft. He is qualified as first pilot in NASA T-38 aircraft.

NASA EXPERIENCE: Selected by NASA in April 1996, Brown reported to the Johnson Space Center in August 1996. Having completed two years of training and evaluation, he is eligible for flight assignment as a mission specialist. He was initially assigned to support payload development for the International Space Station, followed by the astronaut support team responsible for orbiter cockpit setup, crew strap-in, and landing recovery.



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Biographical Data

KALPANA CHAWLA (PH.D.) NASA ASTRONAUT

PERSONAL DATA: Born in Karnal, India. Kalpana Chawla enjoys flying, hiking, backpacking, and reading. She holds Certificated Flight Instructor's license with airplane and glider ratings, Commercial Pilot's licenses for single- and multi-engine land and seaplanes, and Gliders, and instrument rating for airplanes. She enjoys flying aerobatics and tail-wheel airplanes.

EDUCATION: Graduated from Tagore School, Karnal, India, in 1976. Bachelor of science degree in aeronautical engineering from Punjab Engineering College, India, 1982. Master of science degree in aerospace engineering from University of Texas, 1984. Doctorate of philosophy in aerospace engineering from University of Colorado, 1988.

EXPERIENCE: In 1988, Kalpana Chawla started work at NASA Ames Research Center in the area of powered-lift computational fluid dynamics. Her research concentrated on simulation of complex air flows encountered around aircraft such as the Harrier in "ground-effect." Following completion of this project she supported research in mapping of flow solvers to parallel computers, and testing of these solvers by carrying out powered lift computations. In 1993 Kalpana Chawla joined Overset Methods Inc., Los Altos, California, as Vice President and Research Scientist to form a team with other researchers specializing in simulation of moving multiple body problems. She was responsible for development and implementation of efficient techniques to perform aerodynamic optimization. Results of various projects that Kalpana Chawla participated in are documented in technical conference papers and journals.

NASA EXPERIENCE: Selected by NASA in December 1994, Kalpana Chawla reported to the Johnson Space Center in March 1995 as an astronaut candidate in the 15th Group of Astronauts. After completing a year of training and evaluation, she was assigned as crew representative to work technical issues for the Astronaut Office EVA/Robotics and Computer Branches. Her assignments included work on development of Robotic Situational Awareness Displays and testing space shuttle control software in the Shuttle Avionics Integration Laboratory.

In November 1996, Kalpana Chawla was assigned as mission specialist and prime robotic arm operator on STS-87 (November 19 to December 5, 1997). STS-87 was the fourth U.S. Microgravity Payload flight and focused on experiments designed to study how the weightless environment of space affects various physical processes, and on observations of the Sun's outer atmospheric layers. Two members of the crew performed an EVA (spacewalk), which featured the manual capture of a Spartan satellite, in addition to testing EVA tools and procedures for future Space Station assembly. In completing her first mission, Kalpana Chawla traveled 6.5 million miles in 252 orbits of the Earth and logged 376 hours and 34 minutes in space. In January 1998, Kalpana Chawla was assigned as crew representative for shuttle and station flight crew equipment. Subsequently, she was assigned as the lead for Astronaut Office's Crew Systems and Habitability section.



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Biographical Data

NAME: Ilan Ramon (Colonel, Israel Air Force)
Payload Specialist

PERSONAL DATA: Born June 20, 1954 in Tel Aviv, Israel. Married to Rona. They have four children. He enjoys snow skiing, squash. His parents reside in Beer Sheva, Israel.

EDUCATION: Graduated from High School in 1972; bachelor of science degree in electronics and computer engineering from the University of Tel Aviv, Israel, in 1987.

SPECIAL HONORS/AWARDS: Yom Kippur War (1973); Operation Peace for Galilee (1982); F-16 1,000 Flight Hours (1992).

EXPERIENCE: In 1974, Ramon graduated as a fighter pilot from the Israel Air Force (IAF) Flight School. From 1974-1976 he participated in A-4 Basic Training and Operations. 1976-1980 was spent in Mirage III-C training and operations. In 1980, as one of the IAF's

establishment team of the first F-16 Squadron in Israel, he attended the F-16 Training Course at Hill Air Force Base, Utah. From 1981-1983, he served as the Deputy Squadron Commander B, F-16 Squadron. From 1983-1987, he attended the University of Tel Aviv. From 1988-1990, he served as Deputy Squadron Commander A, F-4 Phantom Squadron. During 1990, he attended the Squadron Commanders Course. From 1990-1992, he served as Squadron Commander, F-16 Squadron. From 1992-1994, he was Head of the Aircraft Branch in the Operations Requirement Department. In 1994, he was promoted to the rank of Colonel and assigned as Head of the Department of Operational Requirement for Weapon Development and Acquisition. He stayed at this post until 1998.

Colonel Ramon has accumulated over 3,000 flight hours on the A-4, Mirage III-C, and F-4, and over 1,000 flight hours on the F-16.

NASA EXPERIENCE: In 1997, Colonel Ramon was selected as a Payload Specialist. He is designated to train as prime for a Space Shuttle mission with a payload that includes a multispectral camera for recording desert aerosol. In July 1998, he reported for training at the Johnson Space Center, Houston.

Agenda for February 14th Meeting

[Location - Center for Advanced Space Studies \(formerly LPI\) located at 3600 Bay Area Blvd.](#)

7:30 - Meeting Start and Welcome

7: 35 - Tales from KSC, or Out to Launch, a requiem for STS-107

8:00 - Software Segment: Sounds from Space by Dennis Webb

8:20-Hardware Segment: Randy's New TAK and first images

8:40- Add Astronomical Oddity by Hernan Contreras: " Olber's Paradox, The Red Shift and the Big Bang" A full menu.

9:00- Calendar Review, Announcements, Awards and SIG Reports

Deep Sky, Challenge Object - Ken Lester

Star Party News -Lisa Lester

Charlie's Challenge - Charles Hudson/Drel Setzer

10:00 - Last Words, Door Prizes and Adjourn

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