

# THE FLIGHT PLAN

The Newsletter of AIAA Albuquerque Section  
 The American Institute of Aeronautics and Astronautics

**JOIN THE VIRTUAL MIXER ON THURSDAY  
 23 SEPTEMBER**

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Here is the Zoom invitation for this Thursday's AIAA Albuquerque General Meeting. This meeting will be a general meet & greet / virtual mixer. Feel free to forward the meeting information to anyone who may be interested in joining our section as well.

<https://aiaa.zoom.us/j/93522082536>

Meeting ID: 935 2208 2536



Scenes of other AIAA get-togethers on Zoom

## CALENDAR

### Local Section Events

Next General meeting :

Virtual Meeting Via Zoom

Start 5:45 pm

End 7:30 pm

#### Upcoming U.S. Launches

Sep TBD Falcon 9 • Starlink 2-1

Sep 15 Falcon 9 • Inspiration 4

Sep 23 Atlas 5 • Landsat 9

TBD Falcon 9 • Starlink

TBD Falcon Heavy • USSF 44

Oct 16 Atlas 5 • Lucy

Oct 31 Falcon 9 • Crew 3

TBD Atlas 5 • STP-3

TBD Atlas 5 • CST-100 Starliner OFT 2

TBD Atlas 5 • USSF 8 (GSSAP 5&6)

Nov 17 Falcon 9 • IXPE

Nov 23/24 Falcon 9 • DART

TBD Falcon 9 • Turksat 5B

### National AIAA Events

[2021 AIAA Defense and Security Forum \(AIAA DEFENSE Forum\)](#)

14 SEPTEMBER - 16 SEPTEMBER 2021

[Supporting Hypersonic Flight Through UCAH and Research \(Member Exclusive Webinar\)](#)

20 SEPTEMBER 2021 1300 - 1400

[Professional Virtual Career Fair](#)

29 SEPTEMBER 2021 1500 - 1800 (EASTERN DAYLIGHT TIME)

[AIAA International Space Planes and Hypersonic Systems and Technologies Conference](#)

15 NOVEMBER - 17 NOVEMBER 2021

[ASCEND – Accelerating Space Commerce, Exploration, and New Discovery](#)

15 NOVEMBER - 17 NOVEMBER 2021

[3rd International Academy of Astronautics \(IAA\) Conference on Space Situational Awareness](#)

13 SEPTEMBER - 15 SEPTEMBER 2021

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## ALBUQUERQUE SECTION OFFICER NEEDED

*By Robert A. Malseed, Treasurer*

Your Albuquerque Section needs you to serve on the section Council. Our **Communications** position is currently vacant. (It would be nice to return to monthly newsletters.)

“The **Communications Officer** shall be responsible for the Section publication activities including, but not limited to, the periodic preparation and distribution of the Section newsletter and any other print or social media required to support Section activities.”



# WE WANT YOU!

## HONORS AND AWARDS NEWS OF SECTION MEMBERS

By Stephen Seiffert—Honors and Awards Officer

### 27 August 2021 AIAA Announcement

AIAA nationally, recognizes professional, technical collaboration with annual **Section Awards** in a number of categories. The 2020-2021 section award winners included the AIAA Albuquerque Section's member **Dr. Svetlana V. Poroseva**, Associate Professor of Mechanical Engineering, the University of New Mexico as Second-Place winner of the **Section-Student Branch Partnership Award**, which recognizes member innovative collaboration between professional members and affiliated student branch members, representative of AIAA's national goals for student professional development. Dr. Poroseva is the Albuquerque Section's liaison with the University of New Mexico's AIAA Student Branch. From the Albuquerque Section AIAA, our congratulations upon selection of this Section Award.



**Second Place - Section-Student Partnership Award**

- **Very Small:** Vandenberg, Evan Agarwal
- **Small:** Twin Cities, Kristen Gerzina
- **Medium:** Greater Philadelphia, Jonathan Moore
- **Large:** Albuquerque, Svetlana Poroseva
- **Very Large:** Rocky Mountain, Dan Scantland

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### September 1, 2021 AIAA Announcement

**Dr Steven J. Beresh** of Sandia National Laboratories has been selected to receive the **2022 AIAA Sustained Service Award**.

The sustained service special recognition is indeed an individual accomplishment, both professionally and personally for the commitment of time and effort to the membership of the AIAA member community.

Dr. Beresh is being honored *“For sustained service and outstanding leadership to Aerodynamic Measurement Technology and Aerospace Sciences technical activities.”* He has been active at the national technical committee level.

Our congratulations, from the Albuquerque Section AIAA, upon selection for this AIAA 2022 Sustained Service Award. The award is a certificate and pin presented during the annual *AIAA Leadership Summit*, on 26 June 2022, held in conjunction with the *2022 AIAA Aviation Forum* in Chicago, Illinois.

**LETTER FROM UNM**

*By Dr. Svetlana V. Poroseva, Associate Professor, Mechanical Engineering*

Greetings!

The University of New Mexico operates in full this semester and our students are back. This is an opportunity for the AIAA Albuquerque community to promote AIAA goals and research among our students. A few options may be of interest for you to consider:

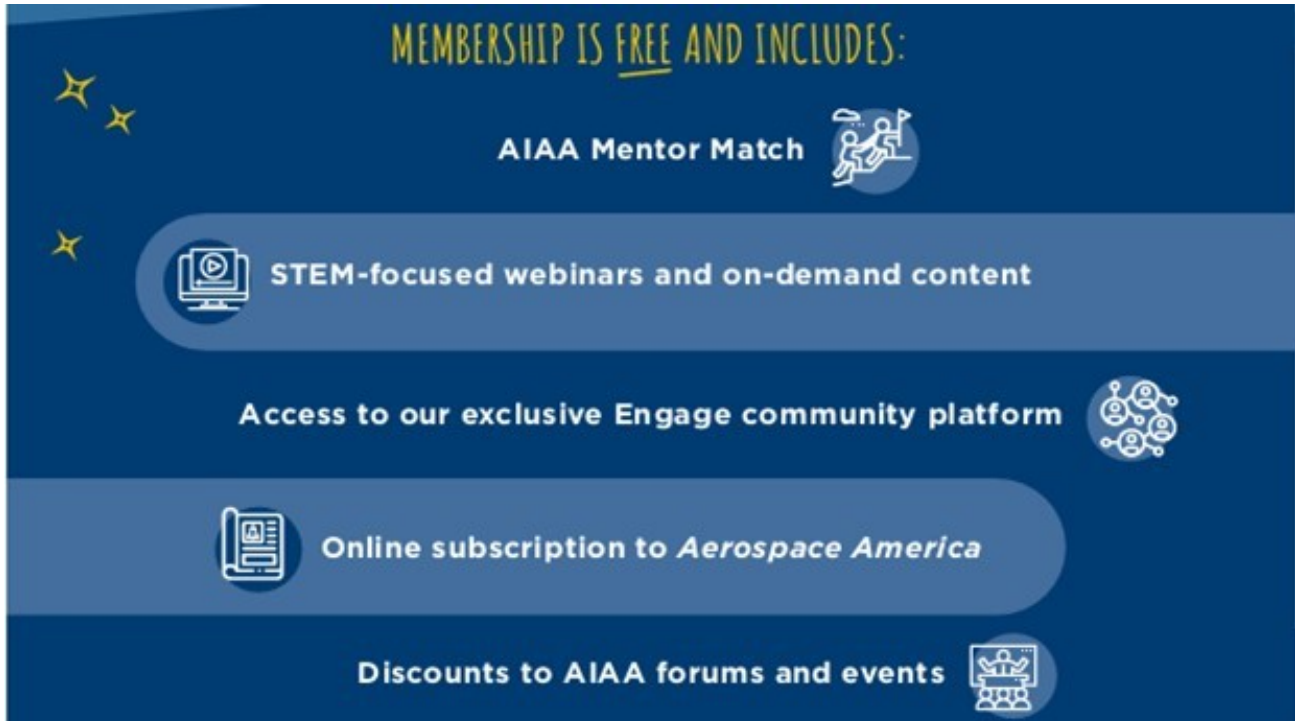
1. Presentations (~45 min each) for the UNM AIAA student branch, which consists of mainly undergraduate, but also graduate students. Such presentations are better to be interesting rather than technically loaded. The meeting time can be discussed.
2. Presentations (~45 min each) at the UNM Mechanical Engineering graduate student seminar. I am organizing such seminars this year yet again and this is a fantastic opportunity for the students and the AIAA community to discuss research in aerospace. The seminar time is fixed, Fridays at 3.30 p.m. I have one spot left in this semester: December 3. Currently, I am making arrangements for Spring 2021. If you are interested, contact me and I will send you the schedule of seminars. In this semester, all presentations are on Zoom, but the next semester, it can be on Zoom or in person (subject to the UNM covid-related policies and presenter's wish).
3. Finally, a new way of involving undergraduate students in research was tested the previous year and can be continued this year. Specifically, if you have a research project of mutual interest for you and a student, a student can be involved in such a project for one semester, but not more than a semester. A mentor will have to discuss with me the project goals and expected outcomes for the student after one semester, before advertising the project as an opportunity. Research has to happen on a regular base and will be graded based on the mentor input to me at the semester end. Any party can terminate the project for whatever reason. The project may include a few students. For a student, this will be an opportunity to develop professional skills and have a grade at the semester end, for the mentor, this is an opportunity to advance research and to decide on possible student's hiring beyond the semester. One of the desirable outcomes from such an arrangement is student's participation in the annual AIAA Region IV student conference (at the end of March).
4. If you have other suggestions on how to promote AIAA and AIAA-related jobs among undergraduate students in particular, please contact me by email. Remember that the next generation in aerospace will not grow as weed in a garden. This requires a consistent effort from the broad professional community. No teaching and advising in academia will substitute for enthusiastic mentorship from industry and labs.

Dr. Svetlana V. Poroseva  
Associate Professor  
Mechanical Engineering  
University of New Mexico  
Phone: 1 (505) 277-1493  
E-mail: [poroseva@unm.edu](mailto:poroseva@unm.edu)



**NEW      FREE AIAA HIGH SCHOOL MEMBERSHIP      NEW**

Our section currently has eight members in the new High School Student grade.



A graphic with a dark blue background and yellow stars in the top left corner. The text "MEMBERSHIP IS FREE AND INCLUDES:" is at the top in yellow. Below it, five benefits are listed, each with an icon: "AIAA Mentor Match" (person with magnifying glass), "STEM-focused webinars and on-demand content" (computer monitor with play button), "Access to our exclusive Engage community platform" (network of people icons), "Online subscription to *Aerospace America*" (document with magnifying glass), and "Discounts to AIAA forums and events" (group of people at a table).

**MEMBERSHIP IS FREE AND INCLUDES:**

- AIAA Mentor Match**
- STEM-focused webinars and on-demand content**
- Access to our exclusive Engage community platform**
- Online subscription to *Aerospace America***
- Discounts to AIAA forums and events**

Go to [aiaa.org/hs](https://aiaa.org/hs) to sign up .      Questions?      Contact [custserv@aiaa.org](mailto:custserv@aiaa.org)

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**JUL, AUG, SEP IN AIR & SPACE HISTORY****JULY 2021****60 Years Ago - 1961**

July 7: Discoverer 26 launched by Thor Agena, 7:32 p.m., EDT, Vandenberg AFB, CA.

July 12: Tiros 3 launched by Thor Delta, 6:25 a.m., EDT, Cape Canaveral, Fla.

July 12: Midas 3 launched by Atlas, 8:12 a.m., PDT, Vandenberg AFB, CA.

July 21: Mercury-Redstone 4 (MR-4) named Liberty Bell 7, Virgil I. "Gus" Grissom, second suborbital flight for the U.S., 8:20 a.m., EDT, Cape Canaveral, Fla. Space capsule sank in Atlantic after successful landing.

**55 Years Ago - 1966**

July 1: Explorer 33 launched by Delta, 12:02 p.m., EDT, Cape Canaveral, Fla.

July 5: Saturn rocket (SA-203) launched, orbital test, 9:53 a.m., EST, Cape Canaveral, Fla.

July 6: Proton 3 launched, 1258 UTC, Baikonur, USSR.

July 12: First M2-F2 flight, pilot Milton Thompson, DFRF, CA.

July 18: Gemini 10 (GTA-10 Gemini Titan) launched, with crew composed of John W. Young and Michael Collins, from Cape Canaveral, Fla, 5:20 p.m., EST. First dual rendezvous (Gemini 10 with Agena 10, then Agena 8).

**50 years Ago - 1971**

July 8: Solrad 10 (Explorer 44) launched by Scout, 6:58 p.m., EDT, Wallops, VA.

July 26: Apollo 15 launched with crew of David R. Scott, James B. Irwin, and Alfred M. Worden, carried lunar rover as payload, also infamous postal covers. Took off from Kennedy Space Center, 9:34 a.m., EDT. Also launched The Apollo 15 subsatellite (PFS-1) into lunar orbit.

**45 Years Ago - 1976**

July 1: The National Air and Space Museum, Smithsonian Institution, Washington, DC, officially opens to the public.

July 8: Palapa 1 launched by Delta, 7:31 p.m. EDT, Cape Canaveral, Fla.

July 20: Viking 1 lands on Mars, becoming the first successful operational spacecraft to land there, 5:12 a.m., PDT.

**40 Years Ago - 1981**

July 10: James M. Beggs took office as sixth NASA Administrator.

**30 Years Ago - 1991**

July 15: Research pilot Edward Schneider flew the F/A-18 High Angle-of-Attack Research Vehicle (HARV), with thrust-vectoring paddles, for repair and reboost.

**25 Years Ago - 1996**

July 2: TOMS-EP (Total Ozone Mapping Spectrometer-Earth Probe) spacecraft launched by a Pegasus XL rocket from an L-1011 airplane over southern California at 00:48 UTC. Intended to complement ADEOS-TOMS to monitor global ozone distribution and measure sulfur dioxide from volcanic activity.

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## JUL, AUG, SEP IN AIR & SPACE HISTORY

(Continued from page 6)

### 20 Years Ago – 2001

July 12: STS-104 (Space Shuttle *Atlantis*) launched 5:04 a.m. EDT, KSC. Crew: Steven W. Lindsey, Charles O. Hobaugh, Michael L. Gernhardt, James F. Reilly, and Janet L. Kavandi. International Space Station Flight 7A. Delivered the ISS Airlock, and docked with the ISS at 11:08 p.m. EDT on July 13. Landed July 24, 11:39 p.m. EDT, KSC. Mission Duration: 12 days, 18 hours, 36 minutes.

### 15 Years Ago – 2006

July 4: STS-121 (Space Shuttle *Discovery*) launched 2:38 p.m. EDT, KSC. Crew: Stephanie D. Wilson, Michael E. Fossum, Steven W. Lindsey; commander, Piers J. Sellers; mission specialist, Mark E. Kelly, pilot; Thomas Reiter of Germany with the European Space Agency and Lisa M. Nowak. International Space Station Flight ULF1.1. Completed the return-to-flight objectives by flying an improved external tank and testing on-orbit shuttle repair procedures, and preparing the International Space Station for future assembly. Landed at KSC, July 17 at 9:14 a.m. EDT. Mission Duration: 12 days, 18 hours, 37 minutes.

July 12: Genesis 1, an inflatable test module was launched by a Dnepr rocket (a converted ICBM, known as SS-18 Satan) at 8:53 a.m. EDT from ISC Kosmotras Space and Missile Complex, Russia. This module designed by space tourism company Bigelow Aerospace is the first in a series designed to provide a platform for a space hotel.

### 10 Years Ago – 2011

July 8: STS 135 (Space Shuttle *Atlantis*) launched 11:29 a.m. EDT, KSC. It docked with the International Space Station's (ISS) Harmony module on July 10. Crew: Chris Ferguson, Doug Hurley; Rex Walheim and Sandy Magnus. It was the 135th and final Space Shuttle mission. The mission's primary cargo was the Multi-Purpose Logistics Module (MPLM) Raffaello and a Lightweight Multi-Purpose Carrier (LMC).

July 15: Dawn became the first probe to enter orbit around an object in the main asteroid belt between Mars and Jupiter, the asteroid Vesta.

### 5 Years Ago – 2016

July 4: After an almost five-year journey to the solar system's largest planet, NASA's Juno spacecraft successfully entered Jupiter's orbit during a 35-minute engine burn. Confirmation that the burn had completed was received on Earth at 8:53 p.m. PDT (11:53 p.m. EDT).

July 7: Soyuz MS-01 launched at 01:36:00 UTC by Soyuz FG from Tyuratam (Baikonur Cosmodrome), Kazakhstan. Crew: The MS variant is the last in a series of planned upgrades for the veteran Soyuz vehicle of the Russian Federal Space Agency. NASA astronaut Kate Rubins, cosmonaut Anatoly Ivanishin of the Russian space agency Roscosmos, and astronaut Takuya Onishi of the Japan Aerospace Exploration Agency (JAXA). (Expedition 48). Installed International Docking Adapters for future commercial vehicles.

## AUGUST 2021

### 150 Years Ago: 1871

August 19: Orville Wright born, Dayton, OH.

### 60 Years Ago - 1961

August 6: Gherman S. Titov launched aboard Vostok 2, 0600 UTC, Baikonur, USSR.

August 15: Explorer 12 launched by Thor Delta, 11:21 p.m., EDT, Cape Canaveral, Fla.

August 23: Ranger 1 launched by Atlas Agena, failed, 6:04 a.m., EDT, Cape Canaveral, Fla.

August 25: Explorer S55 A (Explorer 13) launched by Scout, 2:29 p.m., EDT, Wallops, VA.

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## JUL, AUG, SEP IN AIR & SPACE HISTORY

(Continued from page 7)

August 30: Discoverer 29 launched by Thor, 4:00 p.m., EDT, Vandenberg AFB, CA.

### 55 Years Ago - 1966

August 10: Lunar Orbiter 1 launched by Atlas Agena, 3:26 p.m., EDT, Cape Canaveral, Fla.

August 17: Pioneer 7 (Pioneer B) launched by Delta, 11:20 p.m., EDT, Cape Canaveral, Fla.

August 24: Luna 11 (USSR Moon Orbiter) launched by Modified SS-6 (Sapwood) or Molniya, 08:09:00 UTC.

August 25: Saturn rocket (SA-202) launched, suborbital flight test, 1:15 p.m., EDT, Cape Canaveral, Fla.

### 50 years Ago - 1971

August 25: First supersonic flight of M2-F3, pilot William Dana, DFRF, CA

### 45 years Ago - 1976

August 9: Luna 24 (USSR Moon Sample Return) launched by Proton K from Baikonur, 15:04:12 UTC. The last of the Luna series of spacecraft, the mission of the Luna 24 probe was the third Soviet mission to retrieve lunar ground samples.

### 40 Years Ago - 1981

August 3: Dynamics Explorer 1 launched by Delta, 5:56 a.m., EDT, Vandenberg AFB, CA.

August 3: Dynamics Explorer 2 launched as part of dual payload, same date, same location.

August 26: Voyager 2, Saturn flyby at a distance of about 63,000 miles. It captured images of the planet's moons and rings.

### 35 Years Ago - 1986

August 4: Cosmos 1769 launched by a Modified SS-9 (SCARP) or SS-13 (SCRAG) at 05:02:00 UTC from Baikonur to perform naval radar and signal reconnaissance as part of the Electronic Ocean Reconnaissance Satellite (EORSAT) Program.

### 30 Years Ago - 1991

August 2: STS-43 (Space Shuttle *Atlantis*) launched 11:02 a.m., EDT, KSC. Crew: John E. Blaha, Michael A. Baker, Shannon W. Lucid, G. David Low, and James C. Adamson. That same day the Tracking and Data Relay Satellite-5 was ejected into orbit from the cargo bay. Landed August 11, 8:23 a.m., EDT, KSC. Mission Duration: 8 days, 21 hours, and 21 minutes.

August 14: Intelsat 6 F-5, an International mammoth communications satellite, was launched from the Kourou Space Center, French Guiana, at 23:15 UTC, using the Ariane 4 (44L model) booster rocket.

August 15: Meteor/Toms (Meteor 3-5) launched by the U.S.S.R. using the Tsiklon 3 booster rocket from Plesetsk, Russia at 9:15 UTC. The spacecraft also carried a U.S. built Total Ozone Mapping Spectrometer (TOMS) on a joint U.S. and Soviet mission to study the ozone layer.

August 30: Solar-A launched by M3-SII from Kagoshima Space Center, Japan at 2:30 UTC. A joint UK, US, and Japanese venture, it provided valuable data about the Sun's corona and solar flares. The national name of Solar-A is Yohkoh (meaning "sunlight" in English).

### 25 Years Ago - 1996

August 7: Announcement of possible microfossils found in ALH84001 Martian Meteorite.

August 17: Soyuz TM-24, a Russian transport spacecraft, carried cosmonauts Claudie Andre-Deshays (France), Valery G. Korzun,

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## JUL, AUG, SEP IN AIR & SPACE HISTORY

(Continued from page 8)

and Alexander Y. Kaleri to the MIR Space Station. It was launched by a Soyuz-U rocket from Baikonur at 13:17 UTC, and docked with Mir at 14:50 UTC on August 19.

August 17: ADEOS (ADvanced Earth Observation Satellite) -- Japanese remote sensing spacecraft launched by an H-2 rocket from Tanegashima Space center at 01:53 UTC. Named Midori post-launch, it carried instruments to monitor wind and temperature on ocean surfaces and aerosols, ozone, and greenhouse gases in the atmosphere. Failed on June 30, 1997.

August 21: FAST (Fast Auroral SnapshoT explorer) dedicated to study the physical processes that produce auroras launched at 1:50 PDT by a Pegasus-XL rocket from aboard an L-1011 cargo plane flying out of Vandenberg AFB.

### 20 Years Ago – 2001

August 6: Galileo probe Flyby of Io.

August 8: Genesis probe launched by a Delta 2 rocket from Cape Canaveral at 12:13 EDT. Part of NASA's Discovery Program. Genesis was designed to discover the origin/genesis of solar system. The spacecraft was directly injected into the Langrangian-1 (L-1) region (located at about 1.5 million km in the sunward direction) to collect solar wind samples. Crashed Sept. 8, 2004 at U.S. Army Dugway Proving Ground in Utah.

August 10: STS-105 (Space Shuttle *Discovery*) launched from KSC at 5:10 EDT to dock with the ISS (Flight 7A.1). Crew: Scott J. Horowitz, Frederick "Rick" W. Sturckow, Daniel T. Barry, and Patrick G. Forrester. The payload included the Early Ammonia Servicer (EAS), to be installed on the outside of the ISS, and the Multi-Purpose Logistics Module (MPLM) Leonardo. Returned the Expedition 2 crew: Yuri V. Usachev, James S. Voss, and Susan J. Helms; and transported the Expedition 3 crew: Frank L. Culbertson, Jr., Vladimir N. Dezhurov, and Mikhail Tyurin. Landed at KSC, August 22 at 2:23 p.m., EDT. Mission Duration: 11 days, 21 hours, 12 minutes.

### 15 Years Ago – 2006

August 18: NASA awards \$500 million total that was divided between Space Exploration Technologies of El Segundo, Calif. and Rocketplane Kistler of Oklahoma City for the demonstration phase of the Commercial Orbital Transportation Services (COTS) program. COTS was funded to invest in commercial space transportation services with the hope of creating a competitive market for supply flights to the International Space Station (ISS) to follow the Space Shuttle's retirement.

### 10 Years Ago – 2011

August 5: Juno launched 12:25 p.m. EDT from Cape Canaveral Air Force Station to provide the most extensive survey ever of Jupiter while in polar orbit for approximately one year from 2016 to 2017. The launch vehicle was an Atlas V 551 with a Centaur upper stage.

## SEPTEMBER 2021

### 155 Years Ago -- 1866

September 21: Science fiction writer, H. G. (Herbert George) Wells born, England. Famous for such tales as "First Men in the Moon" and "War of the Worlds."

### 75 Years Ago -- 1946

September 30: Thirteen engineers, technicians, and observers from the NACA's Langley Research Center, VA were assigned to assist the X-1 flight test program at the US Air Force Muroc test station in CA. This was the beginning of the Dryden Flight Research Center of NACA and NASA.

### 70 Years Ago -- 1951

(Continued on page 10)

## JUL, AUG, SEP IN AIR & SPACE HISTORY

(Continued from page 9)

September 20: USAF Aerobee sounding rocket was launched with "arkful of animals" -- one monkey and 11 mice. Capsule was successfully recovered after a flight to a height of 236,000 feet. This was the first successful recovery of live animals in the Western Hemisphere, Holloman Air Force Base, NM.

### 65 Years Ago -- 1956

September 20: First Redstone Jupiter C launched, reached an altitude of 682 miles and travelled 3,000 miles downrange, Cape Canaveral, Fla.

### 60 Years Ago -- 1961

September 12: Discoverer 30 launched by Thor Agena, 4:00 p.m., EDT, Vandenberg AFB, CA. Capsule recovered.

September 13: MA-4 launched, unmanned Mercury spacecraft test of Atlas launch vehicle. 10:04 a.m., EDT, Cape Canaveral, Fla. The flight was successful.

September 17: Discoverer 31 launched by Thor Agena, 5:01 p.m., EDT, Vandenberg AFB, CA.

September 19: Site selection for the newly formed NASA Manned Spacecraft Center to be in Houston, TX.

### 55 Years Ago -- 1966

September 8: First episode of a new television science fiction series "Star Trek" shown on NBC-TV. After an unsuccessful run of three seasons the series was cancelled in 1969.

September 12: Gemini 11 (GTA-11) launched, 8:05 a.m., EST, Cape Canaveral, Fla. Crew: Charles "Pete" Conrad, Jr. and Richard F. Gordon, Jr. first station-keeping using tethered linkage.

September 20: Surveyor 2 launched by Atlas Centaur, 8:32 a.m., EDT, Cape Canaveral, Fla. During a midcourse maneuver the spacecraft began tumbling, and the mission to soft-land on the moon was a failure.

### 50 Years Ago -- 1971

September 2: Luna 18 launched by Proton K, 1341 UTC, Baikonur, USSR.

September 28: Luna 19 launched by Proton K, 1000 UTC Baikonur, USSR.

September 29: OSO 7 launched by Thor Delta, 4:45 a.m., EST, Cape Canaveral, Fla. First x-ray observations of a beginning solar flare and of solar "streamers." TETR 3 pick-a-back satellite also onboard.

### 45 Years Ago -- 1976

September 1: US Navy TIP 3 launched by Scout, 2114 UTC, Vandenberg AFB, CA.

September 3: Viking 2 landed on Mars, 3:38 p.m. PDT, earth receiving time. Landing area - Utopia Planitia.

September 11: Raduga 2 (Statsionar 1) launched by Proton from Baikonur, USSR.

September 15: Soyuz 22 launched, Baikonur, USSR. Cosmonauts: Valeri F. Bykovsky and Vladimir V. Aksyonov.

### 40 Years Ago -- 1981

September 24: Satellite Business Systems (SBS 2) launched by Delta, 7:09 p.m., EDT, Cape Canaveral, Fla. The satellite enhanced communications by providing fully switched private networks for use by businesses, the government and other organizations.

### 35 Years Ago -- 1986

September 17: NOAA 10 launched by Atlas E, 8:52 a.m., PDT, Vandenberg AFB, CA. Included search and rescue instruments aboard the spacecraft.

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## JUL, AUG, SEP IN AIR &amp; SPACE HISTORY

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**30 Years Ago -- 1991**

September 12: STS-48 (Space Shuttle *Discovery*) launched 7:11 p.m., EDT, KSC. Crew: John O. Creighton, Kenneth S. Reightler, Jr., Mark N. Brown, Charles D. Gemar, and James F. Buchli. Cargo: UARS. Mission Duration: 5 days, 8 hours, and 28 minutes. Landed at Edwards AFB, CA on September 18 at 3:38 a.m., EDT.

September 15: UARS (Upper Atmosphere Remote Research Satellite) successfully launched from the cargo bay of the *Discovery* by the Remote Manipulator System (RMS) at 12:23 a.m., EDT.

**25 Years Ago – 1996**

September 16: STS-79 (Space Shuttle *Atlantis*) launched from KSC at 4:54 a.m., EDT to dock with the Russian *Mir* station. Astronauts: William F. Readdy, Terrence W. Wilcutt, Jerome Apt, Thomas D. Akers, Carl E. Walz, John E. Blaha, and Shannon W. Lucid. Picked up astronaut Shannon Lucid and dropped off astronaut John Blaha. Landed at KSC on September 26 at 8:13 a.m., EDT. Mission Duration: 10 days, 3 hours, 19 minutes.

**20 Years Ago – 2001**

September 22: Deep Space 1, Comet Borrelly Flyby.

September 30: Stanford Audiophonic Photographic Infrared Experiment (Sapphire) launched. It was a US DoD-funded microsatellite built by the Stanford University students and faculty, carrying a voice synthesizer to convert text messages into human voice. (For launch details, see Starshine 3 below.)

September 30: PCSat (Prototype Communications SATellite) designed to act as a relay for amateur radio transmissions built by the midshipmen at the US Naval Academy. (For launch details, see Starshine 3 below.)

September 30: Picosat 9 is a British-built (US DoD-funded) satellite to test electronic components/systems in space conditions. (For launch details, see Starshine 3 below.)

September 30: Starshine 3, a microsatellite launched, along with Picosat 9, PCSat, and Sapphire, by an Athena 1 rocket from the Kodiak Launch Complex (KLC) on Alaska's Kodiak Island (located 400 km south of Anchorage) at 02:40 UTC on 30 September 2001. (Foul weather and auroral conditions had delayed the launch many times.) The 80 kg NASA satellite is basically a passive light-reflecting sphere of one meter diameter, consisting of 1,500 student-built mirrors (polished by kindergarten and grade school students from many countries) and 31 laser "retroreflectors".

**5 Years Ago – 2006**

September 9: STS-115 (Space Shuttle *Atlantis*) launched from KSC at 11:15 a.m., EDT to dock with the International Space Station (ISS). Crew: Brent W. Jett, Jr., Christopher J. Ferguson, Heidemarie M. Stefanyshyn-Piper, Joseph R. (Joe) Tanner, Daniel C. Burbank, and Steven G. MacLean, who represents the Canadian Space Agency. Installed the P3/P4 integrated truss segment with its solar arrays, which doubled the existing power-generating capacity of the Station. Landed at KSC on September 21 at 6:21 a.m., EDT. Mission Duration: 11 days 19 hours 6 minutes.

September 18: Soyuz TMA-9 launched from Baikonur at 12:08 am by a Soyuz-FG rocket. It carried a Russian cosmonaut, Mikhail Tyurin, an American astronaut, Michael Lopez-Alegria plus the first woman space tourist, Anousheh Ansari to the International Space Station (ISS). She returned on Soyuz TMA 8.

September 22: Hinode (meaning sunrise), also known by its pre-launch name of Solar-B, was a joint Japanese-American (ISAS-NASA) satellite that was launched by an M-5 rocket from Uchinora Space Center at 5:36 pm EDT. It carried three major instruments to monitor the solar magnetic field.

**10 Years Ago – 2011**

September 10: The Gravity Recovery And Interior Laboratory (GRAIL) mission consists of twin spacecraft designed to perform gravity mapping of the Moon, to determine the structure of the lunar interior, and to advance understanding of the thermal evolution of the

## JUL, AUG, SEP IN AIR & SPACE HISTORY

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Moon. Both GRAIL spacecraft (GRAIL-A and GRAIL-B) were launched from Cape Canaveral Air Force Station on a single Delta II 2920-10 at 13:08:52 UT.

September 24: NASA's 6.3-ton Upper Atmosphere Research Satellite, or UARS fell harmlessly back to Earth over the Pacific Ocean.

September 29: Tiangong 1, the first Chinese (PRC) Chinese space laboratory module, launched from Jiuquan at 13:16 UT by a Long March 2F rocket. Tiangong 1, which means heavenly palace in English, was designed to demonstrate the vital docking technology required for a future space station on this test flight.

### 5 Years Ago – 2016

September 8: The OSIRIS-REx (Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer) mission, designed to return a sample of material from near-Earth carbonaceous asteroid Bennu, launched at 23:05:00 UTC by Atlas V from Cape Canaveral.

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## SECTION COUNCIL MEMBERS FOR 2021-2022

*Robert A. Malseed, Treasurer*

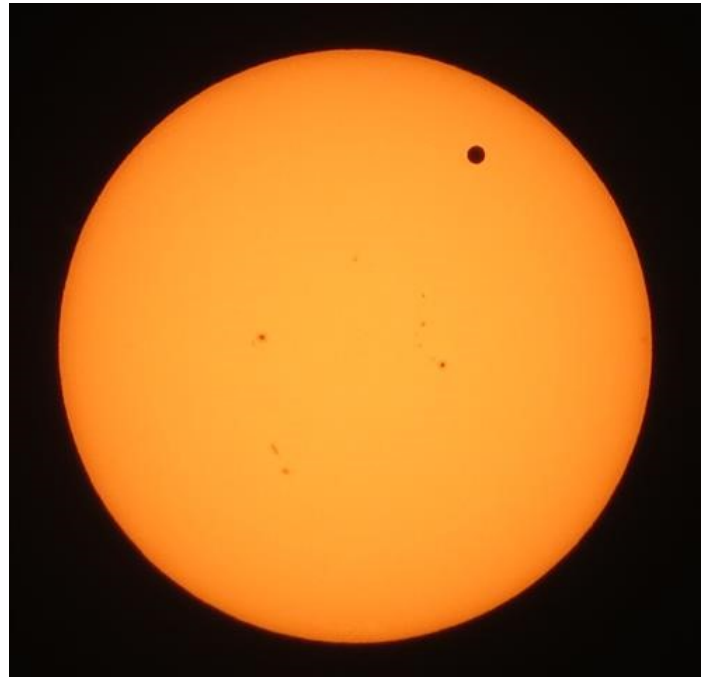
In April the Albuquerque Section elected officers for the 2021 - 2022 year. Other council members are remaining in their previous positions.

Chair .....	Paul Delgado	Membership .....	Erin Pettyjohn	Career Enhancement .....	Andrea Loper
Vice Chair .....	Reid Shaeffer	Honors & Awards .....	Stev Seiffert	Young Professionals.....	Kyle Lynch
Secretary .....	Terry Caipen	Public Policy.....	Mark Fraser	UNM Branch Advisor .....	Svetlana Poroseva
Treasurer .....	Robert Malseed	Corporate Liaison.....	Neil McCasland	NMT Branch Advisor .....	Mostafa Hassanalian
Communications....	<b>VACANT</b>	Education .....	Humberto Silva III		
Programs .....	Nick Morley	STEM K-12.....	Elfego Pinon III		

## IMAGES OF THE QUARTER



Robert Fugate's photo



Robert Malseed's photo.

## Transit of Venus on 5 June 2012

The Los Angeles/Las Vegas Section of AIAA published the photo by Dr. Robert Fugate of Albuquerque in their latest newsletter. I, your Treasurer, took the right hand photo a little earlier that day from a campsite in Bayfield, Colorado. Dr. Fugate was fortunate in having an MD-11 fly across the face of the sun as he was taking photos. He knew where he was (south of I-40 west of Albuquerque) and where the sun was in the sky, and he calculated the distance to the MD-11 based on its apparent size. With this information, the FAA Albuquerque Center was able to determine that the plane was a UPS MD-11 flying from California to Kentucky. The pilot was Captain David Kantor who became known as "Captain Planet" for his apparent flight to Venus! Copies of the photo circulated widely, and many UPS pilots purchased poster prints. Sadly and tragically Captain David Kantor died suddenly (natural causes) in February 2017. A special print of Flight to Venus with the inscription "Blue Skies and Tailwinds" was displayed at his memorial service.

For Bob Fugate this was a case of being in the right place at the right time to take what, for him, will be a once in a lifetime picture.

P.S. over 40 years ago I was in the Air Force Weapons Lab working on High Energy Laser systems analysis. Bob Fugate was working on optical systems there, and has been known as the "Father of Laser Guide Star Adaptive Optics", the key technology that has enabled a revolution in extremely large ground-based telescopes to see clearly through our turbulent atmosphere.

## PARTING THOUGHTS

"Wisdom is not a product of schooling but of the lifelong attempt to acquire it."

- Albert Einstein



## SECTION INFORMATION

### AIAA ALBUQUERQUE

<b>Chair</b>	Dr. Paul M. Delgado
<b>Vice-Chair</b>	Dr. Reid Shaeffer
<b>Secretary</b>	Dr. Terry Caipen
<b>Treasurer</b>	Mr. Robert Malseed
<b>Communications (Acting)</b>	Mr. Robert Malseed
<b>Young Professionals</b>	Mr. Kyle P. Lynch
<b>Membership</b>	Ms. Erin Pettyjohn
<b>Honors &amp; Awards</b>	Dr. Stephen Seiffert
<b>Public Policy</b>	Mr. Mark Fraser
<b>Corporate Liaison</b>	Dr. Neil McCasland
<b>Education</b>	Dr. Humberto Silva III
<b>Programs</b>	Dr. Nick Morley
<b>Career Enhancement</b>	Ms. Andrea Loper
<b>STEM K-12</b>	Dr. Elfego Pinon III
<b>UNM Student Advisor</b>	Dr. Svetlana Poroseva
<b>NMT Student Advisor</b>	Dr. Mostafa Hassanalian



**SHAPING THE FUTURE OF AEROSPACE**

AIAA Albuquerque Section  
American Institute of Aeronautics & Astronautics  
PO BOX 20818  
Albuquerque, NM 87154-0818

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*AIAA's mission is to inspire and advance the future of aerospace for the benefit of humanity. AIAA's vision is to be the voice of the aerospace profession through innovation, technical excellence, and global leadership.*