ARIZONA SPACE COMMISSION
BOARD OF DIRECTORS
PUBLIC MEETING MINUTES

Wednesday, June 10, 2026, at 10:00 A.M.
Northern Arizona University
525 S. Beaver St., Flagstaff, AZ 86001

I. Pledge of Allegiance

Brett Mecum, Chairman, Arizona Space Commission, led the meeting in the Pledge of Allegiance.

II. Call to Order and Roll Call

Chairman Brett Mecum called the meeting of the Arizona Space Commission to order at 10:05 A.M.

Marisa Walker, Executive Vice President and Administrator, Arizona Commerce Authority, proceeded with the roll call. A quorum of voting members confirmed present.

Board Members Present:

- Grant A. Anderson – in person
- James F. Bell – virtual
- Jim Cantrell – virtual
- Megan Fitzgerald – in person
- Erika Hamden – virtual
- Shawn Linam – in person
- Michael McGuire - virtual
- Brett Mecum – in person
- Len Munsil – in person
- Douglas J. Nichols – in person
- Michael P. Vargas – in person
- Steve Zylstra – in person

Board Members Not Present:

- Lisa Morris

III. Consent Agenda

Chairman Mecum began the meeting by introducing the first agenda item: approval of the April 8, 2026, meeting minutes. Commissioner Linam noted a minor correction related to AMC vs. MOU. Commissioner Nichols moved to approve the minutes, and the motion was seconded by Commissioner Vargas. The minutes were approved without objection.

IV. Welcome Remarks

President Cruz Rivera welcomed the Commission to the NAU Campus. During his remarks, he highlighted contributions such as the discovery of Pluto, the proximity of the Meteor Crater, and

training of every Apollo astronaut who walked on the moon. As the world's first Dark Sky City, Flagstaff continues to provide exceptional conditions for observations and research. He emphasized the growth and opportunities for undergraduate and graduate students, highlighting success winning NASA and NSF Fellowships. NAU faculty are embedded in active NASA missions e.g. DART (asteroid redirection), Lucy (Trojan asteroids near Jupiter), Escapade (NAU-designed and student-built camera system), and Artemis 4 (returning humans to the moon). He underscored the multidisciplinary strengths of the Radiant Center for Remote Sensing.

V. OSIRIS-APEX Mission to Asteroid Apophis & Instrument Development

Dr. Chri Haberle presented on three related projects, the OSIRIS-APEX extended asteroid mission, the VISIONS camera line and the SPECTER terrestrial analog program.

After the successful collection of a sample from Bennu, NASA approved an extended mission, OSIRIS-APEX to rendezvous with Apophis during its historic close approach to earth in April 2029. Scientific goals include studying tidal effects on rubble-pile asteroid evolution; characterizing the S-complex near-earth objects; and improving planetary defense knowledge. Dr. Haberle has developed a real-time thermal model to interpret surface temperatures throughout the encounter and 18-month observation period. Arizona is deeply involved in the mission: UA serves as the PI; NAU leads on thermal analysis; Kinetics Aerospace is handling navigation and ASU contributed instrumentation.

A key issue is funding; the mission appears to be cut from the President's proposed NASA budget. The Commission is encouraged to write to Congress.

VISIONS (Visible Infrared Observation System) was developed with TRIF funds at NAU through a three-semester engineering course in collaboration with ASU as the structural analysis partner. The camera launched in November 2025 on a Rocket Lab vehicle and has been operating successfully. It is currently enroute to Mars. Providing high-quality PR imagery, the mission has garnered significant attention from the public and private sectors. The VISIONS heritage has enabled two additional NASA flight programs: AMELIA-3D and a context camera for the AIMS spectrometer.

SPECTER (Spectroscopy of Terrains in Remote Environments) tests operational methods and camera technologies in earth field conditions, including a multispectral infrared/visible camera that generates 16 color-band imagery used as a Mars PanCam analog.

During the discussion, Commissioner Bell emphasized that commercial space companies are increasingly approaching Arizona universities for expertise, science partnerships, and NASA proposal support. He urged that attracting commercial collaborations be a pillar of the Commission's strategic plan.

In response to Chairman Mecum's query on asteroid mining, Dr. Haberle noted that asteroids are the building blocks of planets, potential sources of water and organics and may harbor commercially valuable minerals.

Dr. Haberle responding to Vice Chairman Anderson, indicated that the transition from cooperative agreement to contract structure is creating compliance-related delays but that the AMELIA-3D project is close to resolution.

VI. ARTEMIS Lunar Surface Science Team

Dr. Kristen Bennett outlined her recent selection to the team which will plan and support Artemis 4 and 5 lunar surface missions. Dr. Bennett noted the successful Artemis 2 flyby launched this past April and the forthcoming mission 3 which will focus on testing docking capabilities in earth's orbit. Artemis 4 & 5 will seek to land on the lunar surface using SpaceX or Blue Origin landers respectively. Artemis, unlike the Apollo mission, will target the South Pole region. One of the solar system's oldest and largest impact structures, the South Pole-Aitken Basin offers access to ancient highland samples and may contain water, ice and other volatiles.

Selected in March as one of ten scientists nationally. She noted that nearly half of the scientists chosen are in Arizona, including four from the Tucson-based Planetary Science Institute. Her responsibilities include landing site characterization using orbital datasets, planning surface traverses, supporting real-time mission operations and contributing to preliminary examination of returned samples. The astronaut geology training for the current Artemis candidate class is expected to occur in Flagstaff in 2027. Commissioners expressed interest in organizing a meeting or reception during their visit.

During a discussion, Commissioner Bell emphasized the role of Arizona-trained scientists, including those currently at other institutions on the Artemis missions and the use of Arizona facilities to test lunar landers and rovers by commercial space companies. In response to Chairman Mecum's query about experiments to be left on the lunar surface, Dr. Bennett confirmed that deployed instruments will remain. Axiom Space is working with the team to build the space suit itself.

VII. Lowell Observatory's Contributions to Space Science in Arizona

Dr. Kyler Kuehn provided information on the Observatory's historical contributions, its current research programs and future strategic direction.

Founded in 1894 by Percival Lowell, the Clark Telescope has been operational for 130 years. A celebration is being planned in 2026. Over time their work has inspired the science fiction of Edgar Rice Burrough; the discovery of the expanding universe through galactic redshift observations (later interpreted as evidence of the Big Bang); the discovery of Pluto in 1930; support of the NASA Apollo mission (mapping lunar surface and astronaut training) and pioneering radiometric instrumentation resulting in some of the first infrared measurements of Mars surface temperatures.

Today Lowell is contributing to the New Horizons mission via ground-based observations to refine Pluto's orbit; collaborations with NAU through the Astrophysical Materials Laboratory ("Ice Lab") to study the chemistry of the solar system bodies; and significant contributions to the DART planetary defense mission. In the first five months of 2026, Lowell researchers published 43 peer-reviewed papers cited several hundred times such as the discovery of a moon orbiting asteroid 44 Nysa.

The Lowell Discovery Telescope is 4.3 meters and located at Happy Jack, approximately 40 miles south of Flagstaff. Partners include NAU, Boston University, Yale University, University of Maryland and Goddard Space Flight Center. The telescope provides ground support for DART, tracking artificial satellites and potentially hazardous asteroids. Commercial space partnerships on situational awareness and asteroid mining support are being explored.

Their Discovery Center provides informal education and inspiration for the public; and a four-year fully funded fellowship is provided for up to three early career scientists. Dr. Kuehn's personal research focuses on photonic integrated circuits-specifically ring resonator-based notch filters etched on silicon wafers. The technology could effectively convert a 1-meter telescope to the sensitivity of a 5-meter telescope for certain observations.

VIII. Strategic Plan & Working Group Discussion

Commissioner Linam presented the current draft of the Commission's five-year strategic plan on behalf of the four working groups. Key elements included:

Purpose & Structure—The plan's overarching goal is to advance Arizona as a nationally competitive, globally relevant space state, aligned across industry, education, research, policy and infrastructure-as required by the statutory charter. The plan is expected to be updated every two years and consists of a main body designed for policy makers and the public; as well as an appendix with a recommended set of implementation initiatives. The plan includes seven integrated goals that cross all four working groups.

Arizona Space Identity—SWOT Summary—Core strengths include deep aerospace/defense industrial base with national security alignment; world class optics, photonics, planetary and space science; unique testing environments; growing semiconductor and microelectronics ecosystems; and a strong university talent pipeline. Key gaps include a fragmented state brand and limited space identify, incomplete launch and spaceport licensing/infrastructure; limited space specific incentives and capital tools; technician level workforce shortages; and competition from established tier one space states.

Seven strategic goals—1) Advance space technology leadership**:** establish Arizona's space priorities and differentiated value proposition; 2) Foster a thriving space ecosystem: access to capital, startup support and commercialization pathways to attract companies and research; 3) Enhance workforce and talent: consolidate and build on existing work-based learning credentials and technician pipelines; 4) Promote space friendly policy and infrastructure; 5) support place-based infrastructure: Yuma Spaceport, Barry Goldwater Range, Fort Huachuca, Sierra Vista and Northern Arizona facilities; 6) Enable strategic partnerships: NASA, DoD, commercial and international collaboration; 7) Showcase Arizona's space capabilities nationally and globally.

Next steps & discussion

During the discussion, it was noted that input from stakeholders would be accepted through mid-September to move the document to production in October and release in early December. Chairman Mecum recommended launching a roadshow in January, targeting policy makers. Vice Chairman Anderson suggested reading for what is missing to avoid last minute modifications to the document. Commissioner Bells recommended that the plan includes rough-order-of-magnitude (ROM) and return on investment estimates for legislative stakeholders. A meeting with ACA leadership is being organized for September and will explore ways to effectively advance the plan. Commissioner Linam cautioned that it will be critical that execution resides with the appropriate entities and that the Commission will require necessary resources. Chairman Mecum suggested seeking input from organizations like the National Space Society, Commercial Spaceflight Federation and peer state space commissioners.

IX. Discussion

Commissioner Updates

a) Commissioner Steve Zylstra noted the confirmation of the July 15th, Arizona Aerospace Summit at the Tucson Convention Center. Speakers will include former NASA Administrator Reid Wiseman and Gwen Griffin, Chairwoman of the Texas Space Commission.

b) Chairman Brett Mecum highlighted the ACA sponsored booth at the Space Symposium. The paperwork for next year has been submitted. Attendees reported the event was highly productive.

- The Chairman shifted gears to emphasize the need to raise $32K for ADOT by December 31, 2026 to proceed with the specialty plate production. Ideas were being considered for sponsorship. Commissioner Vargas is leading the design concept for the plate and will circulate artwork options.
- The Chairman went on to recommend the Commissioners promote Arizona and the Commission at external space events.
- He completed his updates by sharing his intention to send a letter to the President to request an executive order recognizing Pluto as a planet. Commissioners are welcome to co-sign.

X. Call to the Public

Stephen Fleming commended the Commission on a great meeting and expressed excitement to review the strategic plan.

No other comments were offered.

XI. Adjournment

The meeting was adjourned at 12:00 P.M. following a motion by Commissioner Nichols, seconded by Commissioner Vargas, and unanimously approved.