School of Earth and Space Exploration
Arizona State University

September 2021

Dear Friends,

In this month's newsletter, we are excited to announce a full season of events at the School of Earth and Space Exploration! First, we are featuring the return of our **New Discoveries Lecture Series** in October with a panel discussion on the James Webb Space Telescope with ASU scientists and students including Regents Professor Rogier Windhorst. Also in October, our graduate students will host the **Earth and Space Open House**, for science enthusiasts of all ages. And we are pleased to continue hosting our **Virtual Night Sky** series with the Marston Exploration Theater presenters.

October will also bring the much-anticipated **NASA Lucy mission** launch slated for October 16 from Cape Canaveral, Florida to Jupiter's Trojan Asteroids. Onboard the Lucy spacecraft is the ASU-led **Lucy Thermal Emission**

Spectrometer (L'TES for short) and we'll be cheering the launch with thousands of students and alumni from the ASU-led **L'Space Academy**. See the Events Section of this website for an invitation to watch the launch events online with members of the Lucy team.

Finally, congratulations to our Geological Sciences alum, SESE adjunct faculty, and pilot of SpaceX's Crew Dragon, **Sian Proctor**, and the rest of the Inspiration4 team on a successful mission that orbited Earth for 3 days! We are proud that Sian is the first ASU alumna to go to space as part of this historic all-civilian mission.

I hope you enjoy this newsletter featuring our research news, announcements, and events. For more information, we have included links to social media at the end of this newsletter.

Be well and keep safe,

Meenakshi (Mini) Wadhwa

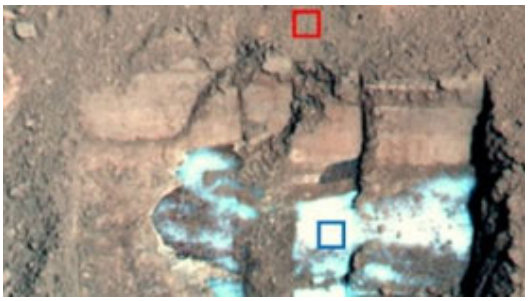
In the News

ASU scientists have key roles in Mars sample collection and return

NASA's Mars 2020 Perseverance rover is the most sophisticated rover NASA has ever sent to the Red Planet. One of the main tasks of this mission is to collect carefully selected and documented rock and sediment samples for future return to Earth. Learn about the Mars sample collection and the School faculty involved with the sample and return efforts. **Read more**

ASU-led NASA Psyche mission is a year out from launch

The anticipation is building for the ASU-led NASA Psyche mission team, as the countdown clock now displays the mission's launch as less than 365 days away. This mission, which was selected for NASA's Discovery Program in 2017, will launch from Cape Canaveral, Florida, in a launch period opening Aug. 1, 2022. **Read more**



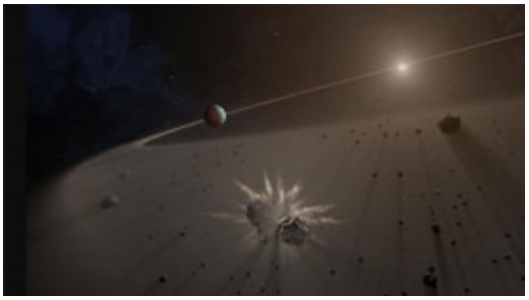
Martian snow is dusty, could potentially melt, new study shows

Graduate student Aditya Khuller and Professor Philip Christensen led an effort to develop a new approach to determine how dusty Mars ice really is. By combining data from NASA's Phoenix Mars Lander and the Mars Reconnaissance Orbiter with computer simulations used to predict snow and glacier ice brightness on Earth, they were able to successfully match the brightness of Martian ice and determine its dust content. **Read more**

ASU graduate students focus on sustainable agriculture in desert landscapes

Graduate students and faculty including Enrique Vivoni, a professor in both the School of Earth and Space Exploration and the School of Sustainable Engineering and the Built Environment at ASU, recently traveled to Puerto Peñasco, also known as Rocky Point, in Sonora, Mexico, to obtain real-world experience with water systems in the arid U.S.-Mexico border region. The collaborative effort between ASU and the Instituto

Tecnologico de Sonora (ITSON), is focused on sustainable agriculture in the desert landscapes of North America. **Read more**



The case of the missing mantle

In the early solar system, terrestrial planets like Mercury, Venus, Earth and Mars are thought to have formed from planetesimals, small early planets. These early planets grew over time, through collisions and mergers, to make them the size they are today. The material released from these violent collisions is commonly thought to have escaped and orbited around the sun, bombarding the growing planets and altering the composition of the asteroid belt. But the asteroid belt does not seem to contain a record of this impact debris. Former postdoc Travis Gabriel with current doctoral student, Harrison Allen-Sutter were curious about this discrepancy and set about creating high-end computer simulations of the collisions, with surprising results. **Read more**

Announcements

Lab of the month

The Interplanetary Initiative Lab is an interdisciplinary research and development workspace committed to innovation and discovery. The lab is open to ASU students, faculty and staff, and external partners to design, build and test space hardware and software. **View the website** to discover the 6,800 square-foot "space makers space" offering cutting-edge space-industry technology.

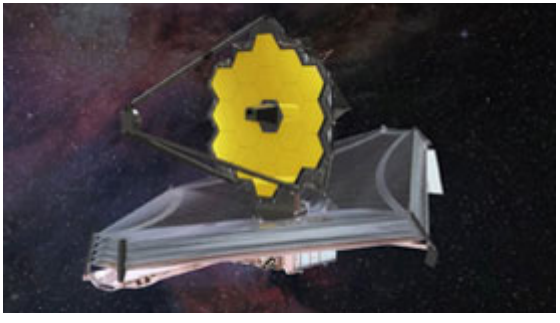
DPS 2021

The AAS Division for Planetary Sciences will host their **53rd Annual Meeting** October 3-8. If you have registered and are attending, be sure to stop by the Exhibit Hall and visit the School of Earth and Space Exploration virtual booth.

Events

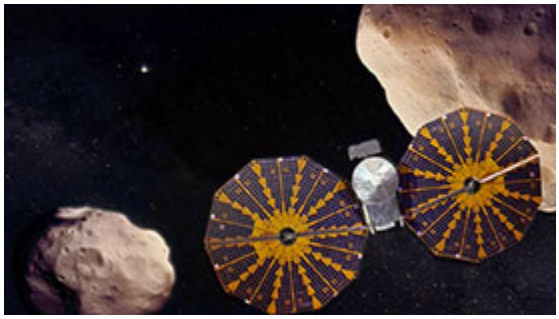
Virtual Night Sky

Join the ASU Marston Exploration Theater presenters on **Wednesday, October 6 and 20 at 7 p.m.** for a live planetarium presentation. Learn about the planets and stars visible in the night sky from your own backyard and the latest events in space exploration! Register in advance for these FREE Zoom webinars **October 6** and **October 20**.



New Discoveries Lecture Series 10/7/21

Join us for the Fall 2021 New Discoveries lecture featuring a panel discussion on the James Webb Space Telescope with ASU scientists and students including Regents Professor Rogier Windhorst. **Thursday, October 7 at 7 p.m. Register in advance for this FREE Zoom webinar.**



Save the date: Lucy Mission launch 10/16/21

Join NASA for the launch of the Lucy Mission to the Trojan Asteroids and cheer on the ASU L'TES team! This event is virtual, free, and open to the public. Launch is slated for **Saturday, October 16.** **Register in advance** and receive information about launch schedule changes, highlighted launch related activities, and more.

International Observe the Moon night 10/16/21

Join us on **Saturday, October 16 at 7 p.m.** for International Observe the Moon Night, featuring guest presenters from the Lunar Reconnaissance Orbiter Camera (LROC) team and astronomy enthusiasts from around the Phoenix metro area. **Register in advance for this FREE Zoom webinar.**

Save the Date: Open House 10/22/21

The Fall 2021 Earth and Space Open House will take place on **Friday, October 22 from 6-8 p.m.** This FREE public outreach and virtual event is organized by graduate students from the School of Earth and Space Exploration and is open to guests of all ages. **Register here**.

The Universe beyond Hubble 10/26/21

Join us on **Tuesday, October 26 at 6 p.m**. as ASU Postdoc Tim Carleton and undergraduate Liam Nolan will present research of the soon-to-be-launched James Webb Space Telescope. Presented in conjunction with the Maricopa County Library District. **Register for this FREE and live virtual event.**

Alumni Announcements

ASU's first alum astronaut

Before Sian Proctor became a member of the first all-civilian crew and pilot of SpaceX's Crew Dragon, Proctor earned an MS in geology and a PhD in science education at ASU from 1994 to 2006. **Read more** about Proctor and her journey into spaceflight history.

Alumni: Keep it current!

Join us on **LinkedIn** and **update your contact info** so you can receive the latest School and university news, exclusive career and professional development opportunities, unique ASU experiences, invitations to special events and much more!

ASU School of Earth and Space Exploration
Arizona State University

#1 in the U.S. for innovation
ASU ahead of MIT and Stanford
– U.S. News & World Report, 5 years, 2016–2021