

UA HILL UPDATE

Q3 2023

Space

Coming off the heels of the launch of Arizona's <u>Space 4 Center</u>, <u>Vishnu Reddy</u> (Space 4 Center Director and Professor of Planetary Sciences in the Lunar and Planetary Lab) discussed the Cyberspace Solarium Commission's report and the need to categorize space as critical infrastructure with <u>Federal News Network's The Space Hour</u>, and India and Russia's race to the lunar South Pole with <u>BBC</u>.

- Federal News Network's The Space Hour: <u>Is it time to</u> categorize space assets as critical infrastructure?
- BBC: Mission to the Moon: Who will win Russian and India's race to the lunar South Pole?



Vishnu continues to be a sought-after resource on how the United States can advance space exploration and national security as more nations seek to achieve space dominance.

Additionally, the University of Arizona recently <u>signed a Space Act Agreement</u> with NASA's Johnson Space Center that will allow the university to engage extensively in human spaceflight missions, upleveling the existing agency partnership and fostering joint research activities and technology transfer.

National Security



As the Biden Administration and Congress seek to improve the U.S. critical mineral supply chain needed to power green technology and a cleaner future, **Kray Luxbacher** (Department Head of Mining and Geological Engineering and Professor of Mining and Geological Engineering) recently spoke with Reuters about loosening China's grip on vital rare earths. The University of Arizona is leading the charge on mining and critical minerals processing and advocating for copper to be designated a critical mineral.

With the push to expand the nation's quantum capabilities, <u>Saikat Guha</u> (Center for Quantum Networks [CQN] Director and Associate Professor) <u>spoke with DefenseScoop</u> about how the Department of Defense (DoD) and federal government can expand the research and development of quantum tools with the help of academia.

- Reuters: Insight: World battles to loosen China's grip on vital rare earths for clean energy transition
- DefenseScoop: Pentagon seeks \$75M for new program to accelerate quantum tech transition



Emerging Science and Technology



Arthur "Barney" McCabe (Executive Director of the Institute for Computation and Data-Enabled Insight) weighed in on the explosion of generative AI, bias concerns and the debate around effective AI regulation with InformationWeek. In an op-ed with FedScoop, he argues for a revamp of the Office of Science and Technology Policy's (OSTP) AI Bill of Rights, advocates for depoliticized third parties to help regulate AI in collaboration with federal lawmakers and government agencies, and the critical role of academia.

- InformationWeek: Is Al Bias Artificial Intelligence's Fatal Flaw?
- **FedScoop:** Regulating Al risk: Why we need to revamp the 'Al Bill of Rights' and lean on depoliticized third parties

Additionally, the National Science Foundation recently granted the University of Arizona \$30 million over five years to establish a new NSF Science and Technology Center – the New Frontiers of Sound Science and Technology Center to bring together researchers working in topological acoustics to exploit the properties of sound in ways that could vastly improve computing, telecommunications and sensing.

Health

While the official COVID-19 Public Health Emergency (PHE) is over, the need for federal investment in Long COVID research remains. Health experts **Kristen Pogreba-Brown** (Associate Professor of Epidemiology and Biostatistics at the College of Public Health), **Leslie V. Farland** (Assistant Professor in Epidemiology and Biostatistics at the College of Public Health) and **Jennifer Andrews** (Associate Professor in Pediatrics at the College of Medicine) **penned a byline in Healthcare Dive** about how the federal government can guide the next phase of the pandemic through the Long COVID Centers of Excellence and by partnering with research-focused higher education institutions.

Healthcare Dive: The public health emergency is over.
 Here's why government must prioritize funding for long COVID research.



Environment

With 2023 being the hottest year on record, extreme heat expert Ladd Keith (Assistant Professor of Planning and Sustainable Built Environments) recently spoke with CNN about the steps the Biden Administration, Congress and local governments can take to protect the public from the impact of extreme heat. Over the summer, Ladd highlighted the actions individuals can take to prioritize their health and mitigate community impact in an increasingly warmer world.

- CNN This Morning Weekend: DHS, FEMA Team Up for Heat Summit
- Associated Press: <u>Biden looks to provide relief from</u>
 extreme heat as record high temperatures persist across
 the US
- Bloomberg: Phoenix's Rapid Growth Magnified Its Vulnerability to Heat
- The Hill: Federal heat protections could prevent 50,000 injuries per year: report



Additionally, President Robert C. Robbins recently <u>released a report</u> on the institution's Presidential Advisory Commission on the Future of Agriculture and Food Production in a Drying Climate, outlining five recommended solutions for safeguarding the state's agriculture. Co-authored by <u>Laura Condon</u> (Associate Professor of Hydrology and Atmospheric Sciences), the report provides a blueprint that other institutions and states can mirror to address the nation's most pressing food, water and agriculture issues.

Other News/ Reports

Space

- Asteroid sample delivery to launch decades of science
- A gift from space: UArizona-led OSIRIS-REx mission delivers largest-ever asteroid sample to Earth
- OSIRIS-REx's successful sample delivery marks the start of extended OSIRIS-APEX mission
- Space Act Agreement with NASA will advance UArizona engagement in human spaceflight

National Security

- CyberApolis is a virtual city used to train the next generation of cyber professionals to address national security concerns.
- UArizona to pilot new Department of Defense training program

Emerging Science and Technology

- Optical switching at record speeds opens door for ultrafast, light-based electronics and computers
- UArizona engineers lead \$70M project to turn desert shrub into rubber
- University of Arizona ranks 22 on list of top 100 U.S. universities granted utility patents

Health

- UArizona Cancer Center study connects research scientists with the communities they serve
- State-of-the-art MRI machine to advance research on brain's inner workings.
- UArizona Cancer Center researchers discover iron-targeting approaches to halt proliferation of cancer cells
- Study shows how morphine may contribute to bone loss and cancer-induced bone pain
- EPA awards UArizona \$10M for new environmental justice center

Environment

- <u>Urban heat governance: examining the role of urban planning</u>, Ladd Keith, Assistant Professor of Planning and Sustainable Built Environments
- UArizona and partners form consortium to address Southwest water concerns
- Soils in drought stress leak more volatile organic compounds into the atmosphere

