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As we kick off 2025, we're looking toward the heavens as Visit Tucson unveils its [Astro Trail and Visit Tucson Stargazing Guide](#), now available as both a web app and printed guide. The Astro Trail highlights the best stargazing spots in and around Tucson, offering visitors the chance to explore the cosmos through public viewings and educational programs. Check in at each location to collect points and earn rewards along the way.

This month, to usher in the trail, we're shining a spotlight on one of Tucson's leading astronomy experts, Peter McMahon, Operations Manager of Kitt Peak Visitor Center. Renowned as one of the premier stargazing and research facilities in the U.S., Kitt Peak offers unparalleled opportunities to discover the wonders of the universe. Keep reading to learn more about Peter and his work, or click the link below for the latest and greatest media updates from Tucson.

[What's New in Tucson](#)



Meet Peter McMahon

Peter McMahon spends much of his time quite literally with his head in the stars.

As Operations Manager of Kitt Peak National Visitor Center, Peter is the public face of Kitt Peak, which is in the midst of celebrating its 60th anniversary. Since its founding in 1964 – roughly five years before the first Moon landing – Kitt Peak has been a leading site for space research and a hub for public exploration of the night sky. Situated just an hour outside of Tucson, on the second-highest peak in the Tohono O’odham Nation, Kitt Peak enjoys near-perfect viewing conditions, free from light pollution. For decades, both professional and amateur astronomers have flocked to this location for awe-inspiring views of the cosmos and to conduct research.

Peter’s own journey to Kitt Peak was driven by that same allure. A Canadian-born science reporter, about a year ago Peter took the reins of Kitt Peak’s outreach facilities, which include six public telescopes, a visitor center, and a soon-to-debut science center. His prior experience as co-founder of The Jasper Planetarium, in Alberta, Canada, which survived the 2024 summer wildfires, makes him uniquely qualified for the role he now fills.

On the early January morning I spoke with Peter, he expressed excitement about what 2025 has in store for Kitt Peak. With support from the National Science Foundation, the site’s McMath-Pierce Solar Telescope – now decommissioned for scientific research – will be transformed into an 8,000-square-foot public astronomy science center.

“There are science centers in observatories elsewhere, but this science center will actually be in the structure of the telescope itself,” Peter said. “It blurs the line between 'what is a telescope' and 'what is a science center.’”



The new center will open in phases over the next few years, with the first phase set to debut by the end of 2025. A key feature of this phase will be the "Understanding Our Universe" hall, an interactive exhibit designed to immerse visitors in the wonders of modern astronomy. This exhibit will explore topics such as the electromagnetic spectrum and the cutting-edge tools astronomers use to make groundbreaking discoveries. It will also shine a spotlight on Kitt Peak's significant contributions to the field, offering a deeper understanding of Earth's place in the vast cosmos.

The centerpiece of the new science center will be the Telescope Control Room, where visitors will have the opportunity to view the Sun or the Moon through a large solar telescope. The room will feature touchscreen panels where guests can explore the sun, moon and planets. Once the largest solar telescope ever built (now the second largest), McMath-Pierce played a pivotal role in early space research, even helping the Apollo program select the location for the first Moon landings.

"For the first time, the public will be able to see a one-foot-wide image, which will eventually grow to a three-foot image, of the Sun and Moon that only researchers used to view," Peter said. "Because it's a projection onto a table and not into an eyepiece, dozens of people can see the live view at once – whether it's the details on the Sun during the day or thousands and thousands of craters on the Moon and planets at night. That's what excites me most about 2025: offering a game-changing experience that will elevate us to a whole new level. It will draw attention from southern Arizona, North America and from around the world."

The new center will also feature a hall dedicated to Kitt Peak's relationship with the Tohono O'odham Nation, showcasing the tribe's cultural and cosmic ties. Additional highlights will include an Astronomy Lab for educational programs and a "Science on a Sphere" exhibit, where visitors can see stars, planets and the whole universe rotating in front of them as if they're next to these objects and places.

As Phase 1 progresses, Peter's focus is on securing additional funding to complete the full vision of the science center.

The new center will further strengthen Kitt Peak's reputation as a premier astronomy destination for public engagement. Since its opening, the observatory has welcomed an estimated 2 million visitors, giving them the opportunity to explore the cosmos and learn about some of the most significant advancements in the field.



Among the groundbreaking research conducted at Kitt Peak is Vera C. Rubin's pioneering work on dark matter; using one of Kitt Peak's telescopes, Rubin's study of galaxy rotation curves provided key evidence for dark matter's existence, revolutionizing our understanding of the universe. Other notable discoveries include the detection of water vapor on the Sun, made possible by the McMath-Pierce Solar Telescope, and the ongoing mapping of the universe as part of the search for insights into dark energy by researchers at the peak's Nicholas Mayall Telescope.

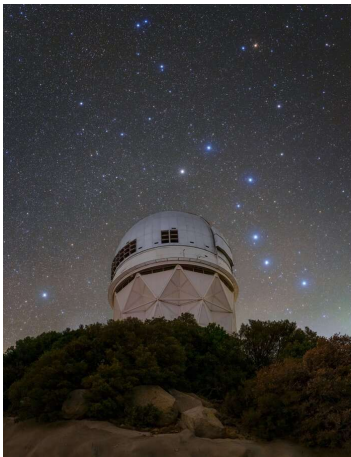
To dive deeper into these discoveries and experience the cosmos up close, Kitt Peak offers an immersive visitor experience with daytime, nighttime, and overnight telescope tours. Open to guests ages 8 and up, the tours allow visitors to view everything from the surface of the Moon to deep-space objects, such as star clusters, nebulae and whole galaxies.

This month, Kitt Peak will also open its new 0.6-meter telescope, housed in the visitor center, for regular public viewings – a development that Peter is especially excited about. During a recent observation session through the telescope in the main visitor center dome, Peter was reminded of what fuels his passion for astronomy.

“I’ve been looking through telescopes for 33 years, but the best view of Jupiter I’ve ever had was through this one,” Peter said. “You could see swirling tendrils coming off of cloud bands at the giant planet’s equator and the Earth-sized Great Red Spot – all in vivid, high-contrast color. Even the Orion Nebula, which usually looks like a gray, fuzzy flower, showed incredible detail. You could see the baby stars forming.”

Peter knows that his childlike wonder for space is shared by many. Over the years, he’s worked to make space science more accessible to the public – writing for publications like Scientific American, Reader’s Digest, Sky & Telescope, broadcast outlets such as Discovery Channel, and even authoring children’s books about the cosmos. Yet, he believes his work at Kitt Peak is the most meaningful of his career.

“I don’t think there’s anywhere else on Earth that does public outreach on this scale, so close to active science,” Peter said. “There are amazing observatories around the world, but the way we engage the public in real scientific discovery here at Kitt Peak is unparalleled. It’s not just about showing people the stars. It’s about letting them see the science as it happens.”



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