

## ***San Antonio People of Faith Historical Museum***

### **Searching God in the Cosmos**

Americans desiring to visit the Vatican Advanced Technology Telescope (VATT) need not travel to Rome. In fact, their journey won't even require a passport. This state-of-the-art telescope sits atop Mount Graham, about 70 miles northeast of Tucson, Arizona. VATT is part of the Mount Graham International Observatory and the University of Arizona's Steward Observatory, in which the Vatican Observatory Research Group (VORG) has its offices. At the same time, VATT and VORG are dependents of the Vatican Observatory in Castel Gandolfo, Italy, and are under the authority of the Holy See. The story of how VATT and VORG came to be is older than the Church itself.

Humans have studied the positions of the sun, moon, and stars since ancient times, often to keep track of the seasons and also to guide their travel. Recorded in the Old Testament are stories of seers and astrologers who used the appearance and position of stars to predict events. In biblical times, there was no distinction as there is today between astrology (attempts to study how the positions, motions, and properties of celestial bodies affect people and/or events on Earth) and astronomy (study of the universe and beyond outside Earth's atmosphere). Most historians believe that the Magi who followed the star they saw as predicting the birth of a King (Matthew 2:2) were most likely Persian priests and astrologers. In 46 A.D., the Roman calendar was replaced by the Julian Calendar, named after Julius Caesar, the late Roman Emperor who had commissioned astronomer Sosigenes to create a calendar based on the solar year. It was this calendar that Pope Gregory VIII "tweaked" in 1582 A.D. to change the scheduling of leap years that had been causing an accumulative time inaccuracy. This corrected calendar now known as the Gregorian calendar is still in use in many countries today.

Pope Gregory VIII's commissioning of Sosigenes marked an intensification of Rome's serious involvement in astronomy. Sosigenes' committee included Fr. Christoph Clavius, a Jesuit mathematician from Roman College who would lead the surge of astronomical study. This focus would not come without controversy, exemplified by the Galileo conflict: the Church's staunch belief in a "geocentric" concept introduced back in the 4th century by Aristotle that Earth is the center of the universe and that the sun and other heavenly bodies revolve around it, versus mathematician and astronomer Galileo's endorsement of the teaching of Copernicus who had developed a "heliocentric model" of the sun, moon, and planets orbiting around the sun. Galileo was tried and found guilty of heresy in 1632 and, although not all historians agree, was excommunicated for his scientific beliefs. He was essentially "reinstated" in an encyclical by Pope Leo XIII in 1893. By that time, the papacy had established in Rome three observatories: Observatory of the Roman College, Observatory of the Capitol, and the Specola Vaticana. The Jesuits were deeply involved in astronomical research. One, Fr. Angelo Secchi at Roman College, was the first to classify stars according to their "spectra" (color of the light emitted) and he became known as the "Father of Modern Astrophysics."

The Specola Vaticana (the Vatican Observatory) eventually would found VATT after being moved, renamed, and rebuilt several times since its inception in 1789. By the 1930s, however, urban light pollution from Rome made it difficult for astronomers to study the fainter stars and galaxies. Pope Pius XI had the observatory relocated to Castel Gandolfo, a small town southeast of Rome and the summer residence for popes. There the Jesuits continued their study of the cosmos. But in 1980, urban light pollution once again interfered with their progress. And so it was that the Vatican established a new division of their Observatory in Tucson, Arizona, an internationally recognized center for astronomy. VATT was conceived in 1987 and dedicated in 1993, a collaborative effort of the University of Arizona's Steward Observatory and the Vatican Observatory. VATT technology is said to be among the best in the world and is acclaimed by international astronomers as empowering scientists to look "with more acute eyes into the universe." According to Vatican Observatory officials in Rome, "With VATT we are pursuing long-term research programs which, although they were the hallmark of research at Castel Gandolfo, we have never been able to carry out before Tucson. Thus from its two centers at Castel Gandolfo and Tucson, the Observatory is continuing various studies and international collaborations." The current supervisor of the Vatican Observatory, Fr. Jose Funes, SJ, states "The first priority of the Vatican Observatory is scientific research, and the VATT is our tool. We are priests and religious men, but we also are scientists...Astronomy is our main service to the church."

If you have visited the Vatican Observatory or the VATT in Arizona, the San Antonio People of Faith Historical would like to hear your story and see any photos you might have to share. The museum is located in the St. Paul Community Center at 1201 Donaldson and plans to reopen as soon as COVID-19 restrictions are eased. Call 210-733-7152 for further information.



**The Vatican Advanced Technology Telescope on Mount Graham in Arizona is part of the Mount Graham International Observatory. Public tours are conducted from mid-May through October.**