



Vatican
Observatory
F o u n d a t i o n

Official Media Kit



About

The Vatican Observatory stands at the forefront of scientific research, covering a broad range of topics from an examination of the tiniest specks of interplanetary dust to the origin and structure of the universe.

From its headquarters at the papal summer residence in Castel Gandolfo, outside Rome, and with additional offices at the University of Arizona in Tucson supporting its telescope at the Mount Graham International Observatory, the Vatican Observatory is the national observatory of the Vatican City State. It supports a dozen Jesuit priests and brothers from four continents who study the universe utilizing modern scientific methods. In addition, another dozen adjunct astronomers, both lay and religious, collaborate from observatories and universities around the world.

The Vatican Observatory works with the Vatican Observatory Foundation to promote education and public engagement in astronomy, and constructive dialogue in the area of faith and science. The Vatican Observatory Foundation, a 501(c) (3) nonprofit incorporated in Arizona, is the fundraising organization for the Observatory.

Impact

For 400 years, the Vatican has been advancing scientific inquiry and promoting awareness of how our universe works. Here are a few examples of our contributions.

Astronomy

Unique among large observatories, the Vatican Observatory has specialized in long-term survey projects from the 19th-20th century *Carte du Ciel* (Map of the Heavens), the first photographic atlas of the stars, to modern catalogs of galaxies, open clusters, and peculiar stars. For the *Carte du Ciel*, Fr. Hagan recruited “computer” nuns from the Sisters of the Holy Child Mary to record the stars’ positions. These data are now digitized and provide a valuable record of changes in stellar brightness and position.

The Vatican telescope VATT produced the first comprehensive search for dark matter candidate “MACHOs” in the Andromeda Galaxy. To match the famous Hubble Space Telescope survey of distant galaxies, Vatican astronomers helped produce a similar catalog of nearby galaxies. And the VATT has characterized stellar clusters embedded in dust clouds within our galaxy.



Pope Paul VI at the Schmidt Telescope in Castel Gandolfo

Technology

The Vatican Observatory Research Group (VORG) operates the 1.8m Alice P. Lennon Telescope with its Thomas J. Bannan Astrophysics Facility, known together as the Vatican Advanced Technology Telescope (VATT), located at Mount Graham near Safford Arizona. With its state of the art electronic cameras, the VATT has pioneered new ways of building large telescopes.

The primary mirror of the VATT was the first ever made using the rotating furnace technology developed by the Mirror Lab at the University of Arizona, which has gone on to revolutionize the creation of large, lightweight, telescope mirrors. The computer-controlled aiming and focusing of the VATT with its gear-free direct drive motors allow the telescope to track objects with less than an arc second of error. With the implementation of the “Don” remote observing at the VATT, observers need not be physically present on the mountaintop to control the telescope and operate its cameras.

Physics and planetary sciences

Observatory scientists study a range of related sciences such as quantum gravity; meteorites and Moon rocks; and possible life on planets orbiting other stars. Vatican meteoriticists have produced a comprehensive catalog of meteorite physical properties and are now measuring samples returned from the asteroid Bennu. It has also set up three sets of sky cameras to record bright bolides and faint meteors entering Earth’s atmosphere over Tucson and Rome.

Education

The Vatican Observatory is committed to education, from K-12 to postgraduate students in the developing world. Every two years, 25 advanced students from around the world participate in the Vatican Observatory Summer School, spending four weeks in Castel Gandolfo attending lectures and working on research projects with notable astronomers, including Nobel laureates. The schools are free, supported by the Vatican Observatory Foundation.

Vatican astronomers also teach astronomy courses both for undergraduates and graduate students in the Astronomy Department of the University of Arizona.

Biennial “Astronomy for Catholics in Ministry and Education” (ACME) workshops in Arizona bring parish priests and educators from K-12 Catholic schools for an immersion into the world of astronomy in Tucson and provide a forum to share ideas on how to teach science in the setting of Catholic schools and parishes.

Vatican astronomers are regular speakers, both in person and on-line, to high school science and religion classes in North America, Europe, Africa, and India. And the Vatican Observatory Foundation sponsors science fair awards for students in Southern Arizona.



Culture and History



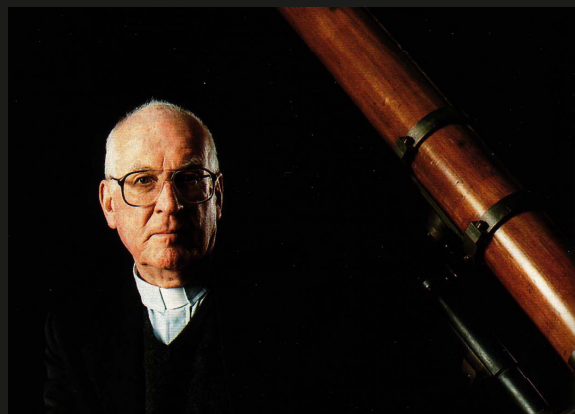
Rev. Christopher Clavius, S.J.

The 1582 Gregorian Calendar... biographies of notable Catholic scientists... workshops on the peaceful uses of space... all show the Observatory’s active role in the larger society and the Church. With the move of the Observatory from Rome to Castel Gandolfo in 1935, a large library was set up including historical astronomical books, some dating from the 16th century, which has served as a vital resource for many historians and scientists. In addition, the Foundation maintains an online resource of materials on the topics of faith and science. The international role of the Vatican Observatory has included a number of important roles in the International Astronomical Union, and it recently co-hosted with the United Nations Office of Outer Space Affairs a workshop on the peaceful uses of space.

Notable Collaborators

Rev. George Coyne, S.J.

Director of the Vatican Observatory from 1978 until 2006, Coyne was also the head of the observatory's research group at the University of Arizona for the same period. Coyne was steadfast in his dedication to reconciling Catholic theology with modern science. He criticized those who maintained a literal interpretation of the Bible and a fundamentalist approach to the Catholic faith. In life and legacy, Coyne was a widely recognized and accomplished astrophysicist; his passing in 2020 was noted in the *New York Times*. He was also an active member of the International Astronomical Union, the American Astronomical Society, the Astronomical Society of the Pacific, the American Physical Society and the Optical Society of America as well as a founder of the International Center for Relativistic Astrophysics.



Rev. George Coyne, S.J.

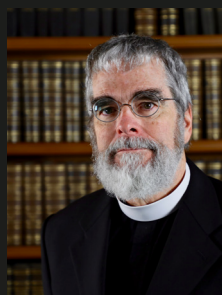
D.K.J. O'Connell

In 1960, O'Connell published the first color photograph of the elusive "green flash" atmospheric phenomenon while observing the sunset from the Vatican Observatory.

Rev. Michael Heller

Professor of philosophy at the Pontifical University of John Paul II in Krakow, Poland, Heller is an adjunct member of the Vatican Observatory. In 2008, Heller was awarded the Templeton Prize for his achievement in philosophy and theoretical physics. With the prize money, Heller established the Copernicus Center for Interdisciplinary Studies.

Principal Spokespersons



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Contact us:

Journalists with questions about any aspect of our Observa-
tory and its work are welcome to contact us.

If you wish to conduct a formal interview on site, please
note the following:



U.S.

All reporters wishing to conduct interviews or do filming at
the VATT or any other telescope affiliated with the Univer-
sity of Arizona, or at the Richard Caris Mirror Lab, or on
campus at the offices of Steward Observatory, University of
Arizona, should contact Cathi Duncan at Steward Obser-
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For any other press or media related inquiries, feel free to
reach out at:

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*Travel to the Vatican Advanced Technology Telescope on Mt.
Graham is difficult and requires advance notice. Upon request
we can provide high resolution images and professionally pro-
duced video of the site which journalists would be free to use.*



Vatican City

All reporters conducting interviews in Castel Gandolfo
need to have written permission from the Vatican before
they can take any sort of pictures, film, or other media re-
cording on Papal territory.

Contact us at staff@specola.va and prepare a document to
send the Vatican Press Office (see below) with:

- The title and brief description of the program
- The names of all of those who will be on the filming crew
- The date and time of the shoot
- The purpose of the interview
- Who will be interviewed
- How long it will take
- How the material will be used

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