



Vatican Observatory Newsletter

Fall 2005

Vatican Observatory Hosts 10th Annual Summer School!



2005 Vatican Observatory Summer School students and faculty in front of the Papal Palace.

This summer, the Vatican Observatory invited 27 young scholars from 20 countries to Castel Gandolfo for four weeks of learning, sharing and having fun! Two hundred students from all over the world applied to the school. It has gained a strong reputation for its professional staff and challenging curriculum that stimulate the participants' knowledge and curiosity. The theme of this summer's session was **Astrobiology: The Search for our Origins and Life Elsewhere**.

The observatory hosts these summer schools to encourage dialogue and foster relationships with young scholars throughout the world. A special emphasis is given to inviting students from non-industrialized countries. The selection is made without reference to race, religion, national origin, gender or physical handicap.

Every morning, the group gathered on the first floor at the papal palace and heard two lectures from a distinguished faculty professor. Topics that were discussed included the search for life on Mars and Europa, bioethics and planetary protection, biology for astronomers, evolution of life and earth's climate through time. Each student also was given the opportunity to discuss his/her current research project they are conducting at their university. See page two for a letter from Marcela Ewert describing her experience at VOSS.

In the afternoon and evening, the students had opportunities to observe with the Vatican telescopes at Castel Gandolfo. Each student had an individual project, chosen from such as Galileo Galilei-type observations of Jupiter's satellites, searching out phylogenetic trees, working on Cassini/Huygens data, and determining parameters for the host stars of extrasolar planets. They presented their findings at the end of the school. They also had an opportunity to explore Castel Gandolfo and the surrounding area.

The students also participated in a Papal audience and took a tour of the Vatican Gardens and Museums. They visited Florence for a weekend audience and made a field trip to Gubbio, a site showing the K-T boundary, famous for marking the extinction of dinosaurs.

All 27 students in the 2005 summers schools share special memories. They have forged friendships for a lifetime while learning about other countries and cultures. They truly symbolize how we are all live under the same large heaven and that borders and politics do not inhibit friendship and caring.

VATICAN OBSERVATORY SUMMER SCHOOL FOR 2005

Eleonora Ammannito	Italy
Bernardo Borges	Brazil
Ella Carlsson	Sweden
Sarah Chamberlain	Australia
*Juhua Chen	China
Gonzalo Carlos de Elia	Argentina
Mario de Leo Winkler	Mexico
Juan José Downes	Venezuela
Yvonne Dzierma	Germany
Bethany Ehlmann	USA
Marcela Ewert	Colombia
José Miguel Fernandez	Chile
Klara Hlouchova	Czech Republic
Maria Khristoforova	Russia
Siramas Komonjinda	Thailand
*Moping Li	China
Ilani Loubser	South Africa
Eder Martioli	Brazil
Katarina Mijjkovic	Serbia & Montenegro
Brenda Miranda Ocejo	Mexico
Nikolai Nikolov	Bulgaria
Chris Ormel	Holland
Celeste Parisi	Argentina
Melissa Pesce-Rollins	Italy
Ramarao Tata	India
Federico Tosi	Italy
Anna Zaniewski	USA

*with great regret to the whole School, the two invitees from China were not issued entry visas to Italy.

FACULTY

Jonathan I. Lunine (Chair),
University of Arizona, Tucson, Arizona

Christopher J. Corbally, S.J. (Dean),
Vatican Observatory

George V. Coyne, S.J. (Director)
Vatican Observatory

John Baross, University of Washington,
Seattle, Washington

Angioletta Coradini, Centro Nazionale di Ricerca,
Rome, Italy

Chris D. Impey, University of Arizona,
Tucson, Arizona

Woodruff T. Sullivan, University of Washington,
Seattle, Washington

Neville J. Woolf, University of Arizona,
Tucson, Arizona.

From the Director... **A Wonderful Summer and Busy Fall!**



This fall, scientists gathered at Castel Gandolfo to discuss the following: Why do hurricanes and tsunamis kill, injure or reduce to abject poverty thousands of people? Why do children die of leukemia? Twenty scholars in theology, philosophy and science struggled with these kinds of questions, which, of course, have no ultimate answer and are shrouded in the mystery of God, the Creator, and His working in and through creation. In October, thirty-five astrophysicists gathered here to share their most recent knowledge of the nature of the very energetic nuclei of some galaxies, a key to understanding the evolution of the universe. Through studying these objects, we seek together to come to an understanding of them.

Ben Dalby has generously accepted the chairmanship of the VOF Board after a unanimous and enthusiastic vote of the directors. Ben and his wife Karen have been very generous supporters of our work. I look forward to working with him.

The tenth Vatican Observatory Summer School, as reported elsewhere in this newsletter, on the topic of astrobiology, was held at the observatory at Castel Gandolfo from 12 June to 8 July with 27 students from 20 different countries. Unlike the previous schools, dedicated to a very specific topic in astrophysics, the 2005 school launched out into an entirely new field of studies on the origins and evolution of life on the earth, on the possibility of life elsewhere in the universe and other related topics. Such discussions require expert knowledge in biology, chemistry, physics, astrophysics, etc. Obviously no one person can command all of those fields but we were very fortunate in being to assemble a faculty of experts in those various disciplines, top researchers in their respective fields. The students were, in my impression, overwhelmed by it all, but they carried home a great big bag of new knowledge about which they are determined to do further studies. They were, indeed, a very talented group. The Jesuit community will award two students with Jesuit community scholarships for doctoral studies, one at the University of Arizona and one, for the first time, to the University of Washington in Seattle.

The visit to Rome, the Vatican and the Observatory at Castel Gandolfo of some of our friends and benefactors took place from 26 June to 1 July. It featured attendance in a special section of St. Peter's Basilica at the Mass on the Feast of SS. Peter and Paul celebrated by our new Pope Benedict XVI and it is reported on elsewhere in this newsletter.

So, you see, we are having a happy and busy 2005!

George



Jesuits of the Observatory include (l to r) Gabrielle Gionti, Andy Whitman, Greg Jacobs (behind Andy), Chris Corbally, Paul Gabor, and Rich Boyle.

Ben Dalby **elected Chair of VOF**



Ben A. Dalby of Los Angeles has been elected chairman of the Board of Directors of the Vatican Observatory Foundation (VOF). In his professional life, he is president and founder of Keep It Self Storage, a firm specializing in investment, development and management of self storage buildings.

Ben has served on the board since 2000. He says that he is honored to be associated with the Jesuit priests on the observatory staff. They also are world class astronomers and astrophysicists.

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Here is a letter written by Marcela Ewert of Columbia to Father Coyne and Father Corbally about her experience at VOSS:

*Dear Fr. George, Fr. Chris
I hope you are returning agreeably to your activities, after this summer school. Personally, I wanted to write you some words. In this moment, I am going back over my studies and work, but I am also full of new plans and ideas for the (short and long term) future. I am realizing all the things I learnt on the school (in the academic and personal level) and the good friends I have now all over the world. I also found some kind of new strength on myself, that I know I owe to the school.*

For those reasons (even if I do not find appropriate words to express my feelings), I am sending you a very, very, special greeting, full of thanks for you, and the people that organized the school and took care of us all this time.

I really hope we keep in contact, and if -in the future- I can help you in any way, please tell me.

*Sincerely,
Marcela*

A Wonderful Summer at Castel Gandolfo!



Friends of the Vatican Observatory Enjoy Italy!

For six days in June, 23 friends of the VOF explored Rome and Castel Gandolfo. The tour was led by Rocco and Barbara Martino of Philadelphia and Paula D'Angelo of Chicago. Guests participating on the tour were Katherine Brosnan of Waco, Texas, Gerry and Eileen Colapinto of Los Angeles, Rose Collins of Tucson, Ben, Karen, Adele, Blair, Dana, and Brittain Dalby of Los Angeles, Britt and Nancy Dalby of Los Angeles, Mercedes Hurley Hughes of Cleveland, George Lane of Chicago, Jim and Diane McGee of Phoenix. Rosemary O'Callaghan of Chicago, Peggy Sandahl of Scottsdale, AZ., and Pam Snyder of Phoenix. On the first evening, mass was led by Father George Coyne in the Pontifical Gregorian University chapel, followed by a rooftop reception. All were treated by wonderful meal at the historic Ristorante Sant'Ignazio. A wonderful stroll to find Rome's best gelato ended the evening.

During their visit in Rome, the group received guided tours of the Sistine Chapel, Vatican Museums, Vatican Gardens, and the excavations under St. Peter's. Special, catered luncheons were held at the Pontifical Academy of Sciences, and the Gregorian University. On Tuesday, the group celebrated mass with Cardinal William Keeler, Archbishop of Baltimore. The mass was held at his titular church in Rome, Santa Maria degli Angeli e dei Martiri, which is also the official church of Italy. The church was designed by Michelangelo. In the afternoon, the tour moved to the Borghese Museum for a look at Italian art and culture.

On Wednesday, June 29, the group celebrated the Feasts of St. Peter and Paul in Rome. The day is an official holiday for the city of Rome and is celebrated by a special mass in St. Peter Basilica. The mass was led by Pope Benedict XVI with cardinals from all over the world in attendance. The VOF friends were part of a select group of people to be invited to the mass. Afterward, the group visited the Gesù Church, where St. Ignatius founded the Jesuit order, and the International College.

The friends also enjoyed the charms of Castel Gandolfo, location of the Papal summer residence and the Vatican Observatory. They lunched with the students of the Vatican Observatory Summer School. Father Manny Carreira let them observe the sun using one of the Observatory telescopes. They also toured the Papal Gardens located next to the palace. They visited the local countryside and several small villages in the area. In their free time, the guests enjoyed wonderful Lake Albano and the shops of Castel Gandolfo. Our guests agreed that the week long tour gave them memories for a lifetime!



Friends pause at the summer theatre of the Emperor Domitian in the Papal gardens at Castel Gandolfo.



Our group enjoys a wonderful pranza at the Pontifical Academy of Sciences!

Vatican Observatory in the News!



A summer school student being interviewed by Reuters on the balcony of the Papal summer residence.

Recent news and stories about the Vatican Observatory have been publicized in media throughout the world. Recent activity includes:

● **Pope Stargazers Teach Tomorrow's Astronomers.** Reuters Media in Europe came to Castel Gandolfo during the summer school and interviewed students and faculty. The story was picked up and broadcast by CNN. It was printed on June 29 and can be viewed on our website vaticanobservatory.org

● **The Jesuit Arizona Observatory.** A production done on the PBS show Religion and Ethics Newsweekly. It featured interviews from Father Chris Corbaly and José Funes. It aired on June 3 and can also be seen on our website.

● **Vatican Astronomer Rebuts Cardinal's Attack on Darwinism.** A article written by Father George Coyne for the Tablet was a news item in the August 12 edition of Science Magazine, produced by the American Association for the Advancement of Science.

● **Galileo's Sons,** a video depicting the history and current activities of the Vatican Observatory, has been aired on PBS stations throughout the country. PBS stations in Kansas City, Albuquerque, Denver, Long Island, New York City, University Park, PA, Phoenix, Dayton, OH, Erie, PA, Providence, R.I., and Peoria, IL showed the 60 minute production. The video is available for purchase by contacting aerose@sympatico.ca.

● The radio show on **Astrobiology**, hosted by Br Guy Consolmagno, S.J. and recorded at the 2005 Vatican Observatory Summer School. **"The Goldilocks Planets"** was broadcast on BBC Radio 4 and it is available for listening at the BBC Science website and our own website.

Our website also features articles from publications prior to 2005 under the In the News link.

Supernova Discovered on the VATT



Rolf Jansen and Tamura Kuzuyuki working at the VATT. Pictures of their supernova discovery can be found at vaticanobservatory.org.

Last April 6, two astronomers from Arizona State University discovered a supernova with the Vatican Advanced Technology Telescope. Rolf Jansen, an assistant professor, and Tamura Kazuyuki, a graduate student, were studying the distribution of light in galaxies with their collaborator, Norman Grogin. They noticed that one of the nearby galaxies had a conspicuous point offset from the center. That prompted follow up observations on subsequent nights to make sure the object was real and did not move in respect to the galaxy (which would have likely made it an asteroid). Since it did not move and was real, they realized they discovered a supernova! They followed up with colleagues from Berkeley who confirmed the object to be a supernova.

About the discovery, Rolf says that supernovae tend to go off all the time in the universe and that one is discovered every two weeks or so. This discovery is added to the database of supernovae. This is used by research scientists to determine the properties of supernova within the range of galactic environments and range of redshift light. This particular supernova is unusual because it was discovered in a cosmic void, a rare discovery.

Rolf has used the VATT extensively over the past four years, studying broad and narrow-band imaging of nearby galaxies. Tsamura was working on studying galaxy images using the Hubble, and the VATT enabled him to study galaxies closer to earth. Rolf likes using the VATT because it delivers a sufficiently large field of view for these studies of nearby galaxies, and the response of its deflector allows efficient observing in near-ultra violet. Its location at 10,500 feet up in the mountain and away from city lights give favorable advantages for using the VATT compared to other telescopes of similar aperture.

Three Questions About Your Will

(courtesy of Leave a Legacy)



Gifts given through your will or trust will support the research and operations of the Vatican Advanced Technology Telescope (VATT) on Mount Graham.

In the aftermath of September 11, 2001 and the recent Golf Coast Hurricanes, a record number of people made appointments with their attorneys to either update their wills or create new ones. The suddenness of that catastrophe was a wake-up call to act on long-delayed intentions.

Perhaps you are thinking about your estate plans as well. You may even be ready to make an appointment with an attorney to obtain a current will. If so, the following questions will help you prepare for your visit. Thinking about these things before meeting with an attorney could save you time and money.

1. What? This first question addresses your assets and liabilities. What do you own and what do you owe? Make a list of real estate, vehicles, collectibles, bank and brokerage accounts, insurance policies — everything you have. Estimate the current value. Also, list all of your financial obligations. This inventory will help your attorney immensely.

2. Who? Decide beforehand who you want to settle your estate when you are gone. This personal representative should be someone you consider fully trustworthy. If you will need guardians for your dependent children, select those as well. And what about one or more trustees to oversee any trusts you may have? In addition to these people, try to come up with

backup names just in case any of your primary choices cannot serve. Also, be sure to ask all of these persons before including them in your will.

3. Where? This can be the most difficult part of planning your estate. Where will you transfer your assets? A surviving spouse will likely receive all or part of your assets. Family members may be beneficiaries as well. And, you may want to consider an estate gift to those organizations you have supported during life, organizations like VOF that reflect your interests and values.

There are other things to think about as well . . . and one of the advantages of meeting with an estate-planning attorney is that he or she can bring up important questions that you might not otherwise consider. A good advisor can also introduce transfer techniques like family trusts and can make sure your will conforms to the laws of your state.

If you do not have an estate-planning attorney, ask your trusted friends for suggestions. You might also ask the trust officer at a local bank for recommendations. If you wish, our director of planned giving will give you several names of local attorneys we respect.

The important thing is to act on your impulses to put your house in order. It may take a little effort, but the end result — peace of mind — is well worth it.

Consider including the Vatican Observatory Foundation in your will. For further information, please contact Nancy Knoche at 602-482-9147 or info@vaticanobservatory.org.





Announcing the 2006 Vatican Observatory Calendar

Colorful wall calendar that makes an ideal gift for friends, family and business associates this year!

Featuring 14 four color images of planets, nebulas, galaxies and other celestial wonders.

Includes dates of significant astronomical observances and religious holidays.

Size 11" x 10" (closed) 11" x 20" (open)
Includes self mailing envelope.

\$15.00 per calendar or \$10.00 per calendar for orders of 5 or more.

PURCHASE CALENDAR THROUGH OUR WEBSITE OR MAIL REQUEST TO:

Vatican Observatory Foundation • 2017 East Lee Street • Tucson AZ 85719 USA

Please visit our website at vaticanobservatory.org to see images of the calendar and further information on the Vatican Observatory

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