



THE INSTITUTE FOR ADVANCED PHYSICS

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Back row, left to right: Mr. Rado Krevs, Dr. Joe Haller, Fr. Neal Nichols, Dr. Mark Wyman, Dr. Anthony Rizzi, Fr. Cliff Hill, Fr. Matthew.
 Front row, left to right: Dr. Gino Sterino, Dr. Ken Klenk, Prof. Ralph McInerny, Prof. Thomas DeKoninck, Prof. Murray Daw, Fr. Matthew Green.

The Annual Conference at Notre Dame

The fifth annual IAP Summer Conference was held at the University of Notre Dame in South Bend, Indiana on July 25 to 28, 2007. The conference marked an important milestone in that the first draft of the textbook in the series *Physica for Realists* is now complete and is just awaiting perfection of the text and the completion of the problem sets. This important text, for the first time in the roughly 300 years since Isaac Newton, integrates Newton's physics with its foundational *physica* (physics in the general sense) base.

The conference focused on a review and critique of the entire textbook. This textbook is remarkable for its deep pedagogical and physical insights. It is the fruit of deep thought and research. It keeps in touch with common sense and the fundamental truths of common experience, that is, the broader philosophy of nature, *physica*.

The key concept of the book is the impetus. This quality of material objects provides a critical link between the broader *physica* and the empiriometric discipline of modern physics. Keeping in mind what we focus on and what we leave behind in the empiriometric method is a key theme of the textbook. The student is shown how physics starts with common sense and leads him, with both feet firmly planted on the ground, into the full glory of the first semester of college physics, Newtonian physics. The book has a swath for advanced high school students and is written with an eye towards its use as source material for all the lower grades, even preschool.



Also, at the conference, two new certified members were awarded their certificates, Father J. C. Hill, a professor of Physics at Duquesne University in Pittsburgh, PA and Dr. Thomas DeKoninck, a professor of Philosophy at Université Laval in Quebec, Canada. We introduced Fr. Hill and Prof. DeKoninck in an article about our new Certified Members in our Spring 2007 newsletter.

impetuses of 5 and 10 Buridans (primary unit of momentum = 1 kg m/s), B and C on the model rocket scale.



The latter rocket was so powerful that it was out of range of our observing astronomer who was attempting to measure the height of the rocket's ascent. Unfortunately, it went so high that it was blown afar as it descended with its parachute unfurled and was not found by our search and rescue team! Notre Dame now has an addition to the top of one of its taller buildings.

Dr. Rizzi presented the first of its kind Martian Calendar that is a culmination of the Manned Mars theme of the textbook. Students learn orbital mechanics necessary for the trip to Mars in chapter 8 and learn how to go to Mars in the next chapter. Thinking about going to Mars and staying there for a while, as is already being done *virtually* by those running NASA's Martian rovers *Spirit* and *Opportunity*, naturally leads one to apply orbital mechanics to devise a calendar that one can use. The approach used to develop this calendar is unique among the many currently suggested Martian calendars in that it incorporates the traditional features of the calendar we use here on Earth, features that came out of the Catholic culture of Western civilization. In particular, it puts the coming of Christ at the center of Martian time, as it is at the center of the current earth calendar.



Long time IAP supporter and member Ralph McInerney, Professor of Philosophy, University of Notre Dame, gave his annual conference talk which this year focused on the implicit philosophy that Pope John Paul II discussed in his encyclical, *Fides et Ratio*, and emphasizing the fact that we

Dr. Joseph Haller talked about the java applet web-based calendar that he designed and that is available on our site. On it you can search for your birthday on Mars, or, under the "Help" tab, find out how our days of the week follow after the 5 planets visible. Be sure to look for the Martian-day equivalents! You can find the calendar at the web address below. The calendar is typical of the cultural leadership that stems from knowing even basic science, being able to conceive of the missions for the next generation of explorers. Cutting edge science leads our culture even more powerfully.

need the foundational *physica* to prove God's existence. He drew a contrast against the difficulties encountered following Descartes who discarded all knowledge derived from the senses in favor of a certainty that he believed could only be obtained from starting with our knowledge of ourselves. Dr Rizzi points out that he came to this way of thinking largely by the habituation to his new mathematical way of thinking.

<http://iapweb.org/MartianCalendar/>

During the meeting, there were several working sessions devoted to problems for the textbook, identifying approaches for getting out the word about the new textbook and the content of a teacher's manual.

Murray Daw, IAP Adjunct Faculty and Physics Professor at Clemson University, and Fr. Matthew Green, L.C., IAP Certified Member and a seminary philosophy instructor, where among the presenters. IAP also extends a sincere thanks to Fr. Neal Nichols for assisting us so powerfully at each annual conference.

Thursday evening, the members got together after dinner to launch a couple of rockets, an activity that is becoming a regular feature of the annual conference. Both chemical and air pressure rockets were launched. The day belonged to the chemical rockets as they thoroughly outperformed the others. These rockets use chemical charges imparting

Fr. Benedict Ashley, IAP Associate Faculty, has also been an annual presenter at the conferences. However, a week before the conference this year, his health (he's a healthy 92 years old!) prevented him from coming. He sent a thoughtful letter to the participants in which he said, "Though my health has declined the Institute is strong; I have much confidence in the Institute and Dr. Rizzi who is so ably heading it. As you all know by now, Dr. Rizzi is an excellent philosopher and knows the principles of St. Thomas and Aristotle well. Every day I grow more convinced of the Institute's importance for the future of science and the mission of the Church. IAP is the only institution that is addressing the Church's and the world's

biggest problem...how modern science should be positively related to the Faith.”

Adapted from an article by Dr. Ken Klenk, IAP Certified Member.

IAP Hires Education & Development Projects Manager



The Institute is pleased to announce the hiring of Jamie Anson as its new Projects Manager. Jamie grew up in the Pacific Northwest, and comes to us out of Seattle.

Jamie completed his B.S. in Neuroscience at Washington State University in May of 2005, and finished a B.A. in English later that year on an Honors Exchange to the University of Wales, Swansea. He completed an assistantship in an obesity and diabetes research lab at Washington State following graduation, and spent last year serving as an Americorps Member tutoring students in reading at an urban high school in Seattle. In Seattle, Jamie was an active member of the young adult communities at St. Josephs Parish and University of Washington Catholic Newman Center. He spent considerable time reading poetry, apologetics and philosophy in search of a vocation and thinking about the place of his science background—a search which led him to Baton Rouge. We welcome Jamie to the Institute!

a five-part television series airing the week of Monday September the 24th.

In five half-hour segments Dr. Rizzi and Marcus Grodi, host of EWTN's *The Journey Home*, invite us to learn the importance of science, and its proper understanding in context for our sanity in our modern age; the basic fundamentals of proper thinking, upon which all of our thinking and believing rests; and in particular, the need for philosophy, the science before science. Using experiments, animation, music video, conversations with children, and examples from everyday life, Dr. Rizzi takes you through the first half of his book, *The Science Before Science: A Guide to Thinking in the 21st Century*.

The series tackles the profound problems in our culture (that are only getting worse and penetrate even good Catholic homes) which reveal deep errors in the way we think. These errors can only be overcome by a commitment to fundamental truths. The series explores these fundamental truths articulated by such great thinkers as Aristotle and above all St. Thomas Aquinas and his disciples. The series also challenges Catholics to do their part by supporting science and, for those who have the vocation, to become a scientist and contribute to this crucial realm of advancing man's knowledge of the world. After all, the world is God's art work.

The program runs nightly September 24-28 at 6:30pm and 3:00am Eastern Time (note this showing comes before the 6:30 one). After the program airs, look for purchasing information at EWTN's religious catalogue. <http://www.ewtn.com/>.



EWTN TV Series Debut of *The Science Before Science!*

Following two and a half years of production work between Dr. Rizzi and Stephen Beaumont, EWTN producer, and their staffs, the Institute is proud to announce the advent of

New Associate Member, David Giroir



David Giroir is an engineer for CDX Services. He has worked for the past four years operating down-hole survey and logging tools in the drilling of horizontal well patterns to extract Methane gas from coal seams. His work takes him back and forth between Beckley, West Virginia and Baton Rouge.

David has an Information Systems Associate Degree from ITI Technical College, a Bachelor's Degree in Philosophy and Religious Studies from LSU, and has spent time studying at Notre Dame Seminary in New Orleans.

David has been struggling to come out of Cartesianism that is so common in our scientific world view. He has found the

antidote in *The Science Before Science*. We welcome David to the IAP team!

100th Anniversary of *Pascendi Dominici Gregis*

September 8th marks the 100th anniversary of a particularly important Papal encyclical entitled, *Pascendi Dominici Gregis* (On Feeding the Flock of the Lord.) In his encyclical letter Pope Pius X warns of the Scientism which destroys common sense—a common sense which was made rigorous by St Thomas Aquinas. The Pope warns that the loss of this common sense constitutes a giving over of all that is most human to the purely emotional realm. He calls us back to the intellect, to using our minds like Pope Benedict XVI who reminds us: “Not to act reasonably, not to act with logos, is contrary to the nature of God.”

In the encyclical Pope Pius X actually calls for “a special Institute” to address science. It is interesting in the past 100 years just how prophetic this encyclical letter has proved.

You can look up the full letter at Papal Encyclicals Online or point your browser to:

<http://www.papalencyclicals.net/Pius10/p10pasce.htm>



Original Oil Painting of IAP logo is complete and hanging in the IAP office. The new logo shows St. Thomas contemplating nature with a copy of Aristotle's physics. The caption reads *Physica ad Dei Gloriam*, physics for the glory of God. The painting is 18" by 14" framed.



First Annual Raffle Winners!

A drawing was held on June 1, 2007 and the numbers are in: 1st prize St. Thomas oil painting: Meghan Klenk, Mechanicsburg, PA; 2nd prize Estes Hydrogen Fuel Rocket: Mary Agnes Klenk, Mechanicsburg, PA; 3rd prize Estes Hydrogen Fuel Rocket: Edward Miller, Picayune, MS

A Special Thanks To:

Our local Walmart for their \$100 donation of desk supplies for our office.